Wollo University

College of Business and Economics

Department of Accounting and Finance

Fundamentals of Information System
(AcFn1042)

Distance Education Program

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Preface

The aim of this module is to introduce a number of emerging electronic technologies that offer organizations additional opportunities to create competitive advantage. Although not all of these technologies are new, their full potential has yet to be explored by business organizations. For example, the potential of basic application software's such as word, excel and power point presentation are used to adopt organizational knowledge through using data's and doing different activities of the organization by computer technology. ICT enables businesses to achieve a high degree of connectivity both within the organization and between business stakeholders such as customers, suppliers and partners. This connectivity is achieved through network technologies which enable organizations to operate and transact business over great distances more quickly and cheaply than ever before.

To bring the learners to a practical level of competency in business related IT tools, including word processing, spreadsheets and presentation software. After successfully completing this course, the learners should be able to explain the fundamental Information Technology (IT) concepts that underpin Business Information Systems, Explain the characteristics of different IT hardware configurations, in terms of processor, storage and input/output technologies, describe different types of software as used by business *and* make them be competent in the use of a computer, produce documents, design spreadsheets and make a presentation. To introduce students to the fundamental aspects of IT in business, including hardware, software, data storage technologies and the theoretical basis for understanding how systems work and interact.

In an environment information security is vital for the acceptance of the technology. The benefits can only be realized if the implementation of security measures are addressed and critical and important data is protected. Many companies will require that a security policy is addressed at strategic level. The objective is for students to critically assess the impact of the new innovation of information Technology in digital economy on business organizations, particularly in the context of an organization with which they are familiar. 'Digital economy has been used to describe the convergence of computing and communications technology on the Internet and the resulting flow of information is stimulating electronic transactions and vast organizational change.

Evaluation Type	Weight
Assignment	35%
Tutorial Attendance	5%
Final exam	60%
Total	100%

UNIT 1

Fundamentals of Information Systems

Objectives

On completion of studying this unit, you are expected to:

- Define technology.
- Define data, information's and information Systems.
- Identify attributes of information.
- Be familiar with business information Systems.

1.1. Introduction to Information and Technology

Technology: refers to all the means for people use their inventions and discoveries to satisfy their needs and desires. The practical application of knowledge, especially in a particular area. Technology is all about using the technical and scientific knowledge we have to help solve problems or to make life better.

Information communication Technology: is the use of modern technology to aid the capture, processing, storage and retrieval & communication of information in the form of numerical data, text, sound or image. The information technology department of a large company would be responsible for collecting, processing, storing information, protecting, transmitting and later retrieving information as necessary.

Information Communication Technology, as defined by the Information Technology Association of America: (ITAA), is "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware." Encompassing the computer and information systems industries, information technology is the capability to electronically input, process, store, output, transmit, and receive data and information, including text, graphics, sound, and video, as well as the ability to control machines of all kinds electronically.

It is comprised of computers, networks, satellite communications, robotics, videotext, cable television, electronic mail ("e-mail"), electronic games, and automated office equipment. The information industry consists of all computer, communications, and electronics-related organizations, including hardware,

software, and services. Completing tasks using information technology results in rapid processing and information mobility, as well as improved reliability and integrity of processed information.

- It is the study of information handling and use in a society by means of modern technology.
- It is a wide variety of items and abilities used in the creation, manipulation & dispersal of information.
- It is the contemporary term that describes the combination of both computer (hardware and software) and high speed communications (data, image, text, audio) technology (I.e. it merges computer and high speed communication links.
- Information Communication Technology has three main integral components.
    - Computer
    - Communication and network
    - The know-how

- **Computer** :- is a general purpose, electronic and programmable machine that processes information automatically in accordance with the instruction that you provide it.
- **Communication and network :-** the study of network architecture and data transmission.
- **Know how :-** knowing how to do something well. It includes: -

- ✓ Familiarity with the tools of information communication technology (ICT)
- ✓ The skills needed to use these tools
- ✓ Understanding when to use ICT to solve a problem.

Principle of Information Communication Technology

- To solve problems
- To unlock creativity
- To make people more effective than they would be.

Information Technology's Role Today

Every day, people use computers in new ways. Computers are increasingly affordable; they continue to be more powerful as information-processing tools as well as easier to use.

Computers in Business One of the first and largest applications of computers is keeping and managing business and financial records. Most large companies keep the employment records of all their workers in large databases that are managed by computer programs. Similar programs and databases are used in such business functions as billing customers; tracking payments received and payments to be made; and tracking

supplies needed and items produced, stored, shipped, and sold. In fact, practically all the information companies need to do business involves the use of computers and information technology.

On a smaller scale, many businesses have replaced cash registers with point-of-sale (POS) terminals. These POS terminals not only print a sales receipt for the customer but also send information to a computer database when each item is sold to maintain an inventory of items on hand and items to be ordered. Computers have also become very important in modern factories. Computer-controlled robots now do tasks that are hot, heavy, or hazardous. Robots are also used to do routine, repetitive tasks in which boredom or fatigue can lead to poor quality work.

Computers in Medicine Information technology plays an important role in medicine. For example, a scanner takes a series of pictures of the body by means of computerized axial tomography (CAT) or magnetic resonance imaging (MRI). A computer then combines the pictures to produce detailed three-dimensional images of the body's organs. In addition, the MRI produces images that show changes in body chemistry and blood flow.

Computers in Science and Engineering Using supercomputers, meteorologists predict future weather by using a combination of observations of weather conditions from many sources, a mathematical representation of the behavior of the atmosphere, and geographic data.

1.2. Data and information

Most people use data and information interchangeably. But data and information are not the same.

Data: can be defined as raw facts about an entity. Entities are things such as objects, people, observations, events. Data are representations of facts. They are raw facts in isolation describing the business transaction. These facts covey meaning but generally are not useful by themselves. They describe the fundamental components and events of a business system. They are valuable resources for a company. They are raw materials for information and are they subjected to further processing.

Information: is the output element of a data processing system. It is a refined and processed data. Information is a processed and organized data that man can understand and get knowledge out of it. It is data that has been manipulated to be useful to us for the action we take & the decision we make.

It tells people something they do not already know or confirms something that they suspect. Information is the life blood of any business. It plays an important role in the day today management of a business and the decision making process.

Information = f (data, processing)

Information is a function of data and processing

Knowledge: - Knowledge is built from scratch by the learner through experience. One gains **knowledge** through context (experiences) and understanding. Information is static, but knowledge is dynamic as it lives within us.

Wisdom is the ultimate level of understanding. As with knowledge, wisdom operates within us. We can share our experiences that create the building blocks for wisdom, however, it need to be communicated with even more understanding of the personal contexts of our audience than with knowledge sharing.

Data and information deal with the past. They are based on the gathering of facts and adding context. Knowledge deals with the present. It becomes a part of us and enables to perform. However, when we gain wisdom, we start dealing with the future as we are now able to vision and design for what will be, rather than for what is or was.

Data processing: is the process of converting data into information. The following are basic data processing activities.

1. **Data collection**: data processing activity that involves getting data from the origin to the system.
2. **Data recording**: the process of expressing data in a form that is recognizable by either a person or a machine.
3. **Data classification**: a process of categorizing all items of data according to common characteristics and features.
4. **Data sorting**: the arrangement of data items in a desired sequence.
5. **Data store**: retaining the data for future reference.
6. **Retrieving data**: refers to finding a specific stored data.
7. **Summarizing data**: is the process of condensing data.
8. **Data communication**: distributions of information to the specific end users.

Sources of information

Sources of information are generally categorized as:

- Documentary source of information
- Non documentary source of information

Documentary source of information may again categorize as primary, secondary or tertiary depending on their originality and their proximity to the source or origin.

I- Primary Sources

Primary sources - are original records created at the time historical events occurred. They present information in its original form, neither interpreted nor condensed nor evaluated by other writers. These sources serve as the raw material to interpret the past; they provide the resources necessary for historical research. They are from the time period involved and have not been filtered through interpretation. Primary sources present original thinking; report on discoveries, or share new information.

Primary sources of information allow the learner to access original and unedited information. A primary source requires the learner to interact with the source and extract information. A **primary source** is an *original* document containing firsthand information about a topic. Primary sources come firsthand from the source or person and are first hand sources; For example - suppose there had been a car accident. The description of the accident which a witness gives to the police is a primary source because it comes from someone actually there at the time. The story in the newspaper the next day is a secondary source because the reporter who wrote the story did not actually witness it. The reporter is presenting a way of understanding the accident or an interpretation.

Some examples of primary sources:

- Experimental research results
- Meetings, conferences and symposia.
- Dissertations (*may also be secondary*)
- Patents
- Sets of data, such as census statistics
- Works of literature (such as poems and fiction)
- Diaries
- Interviews, surveys and fieldwork
- Letters and correspondence
- Speeches
- Newspaper articles (*may also be secondary*)
- Photographs and works of art
- Internet communications on email, and newsgroups

II - Secondary Sources:

A secondary source is information about primary, or original, information, which usually has been modified, selected, or rearranged for a **specific purpose** or audience.

- Describe, interpret, analyze and evaluate the primary sources.
- Comment on and discuss the evidence provided by primary sources.
- Secondary sources analyze, interpret, and discuss information about the primary source.
- Secondary sources are edited primary sources, second-hand versions. They represent someone else's thinking.
- Contains commentary on or discussion about a primary source.
- Secondary sources are second-hand sources.
- The most important feature of secondary sources is that they offer an ***interpretation*** of information gathered from primary sources.

Some examples of secondary sources:

- Bibliographies (*may also be tertiary*)
- Commentaries
- Dictionaries and encyclopedias (*may also be tertiary*)
- Dissertations (*more usually primary*)
- Monographs (other than fiction and autobiography)
- Newspaper and popular magazine articles (*may also be primary*)
- Review articles and literature reviews
- Textbooks (*may also be tertiary*)

III - Tertiary Sources

These consist of information, which is a distillation and collection of primary and secondary sources.

- Works which index, organize and compile citations to, and show you how to use, secondary (and sometimes primary) sources.
- Materials in which the information from secondary sources has been "digested" - reformatted and condensed, to put it into a convenient, easy-to-read form.
- Sources which are once removed in time from secondary sources

Some examples of tertiary sources:

- Almanacs and fact books
- Bibliographies (*also secondary*)
- Chronologies
- Dictionaries and encyclopedias (*may also be secondary*)
- Directories
- Guidebooks, manuals etc
- Handbooks and data compilations (*also secondary*)
- Indexing and abstracting tools used to locate primary & secondary sources (may also be secondary)

1.3. Attributes of Information

The characteristics of valuable information

- **Accessible-**information should be easily accessible by authorized users so they can obtain it in the right formal and at the right time to meet their needs.
- **Accurate-**information is error free
- **Complete-**contains all the important facts
- **Economical-**information should also be relatively economical to product
- **Flexible-**can be used for a variety of purposes
- **Relevant –**important to decision makers

1.4. Business Information Systems

As a prospective managerial end user you should have a general understanding of the major ways information systems are used to support each of the functions of business. The term **business information systems** is used to describe a variety of types of information systems (transaction processing, information reporting, decision support, etc.) that support the functions of business such as accounting, finance, marketing, or human resource management.

Information systems can be grouped into business function categories, however, in the real world information systems are typically integrated combinations of functional information systems. Such systems support **business processes**, such as product development, production, distribution, order management, customer support, and so on. There is a strong emphasis in many organizations to develop such composite or **cross-functional information systems** that cross the boundaries of traditional business functions in order to reengineer and improve vital business processes. These organizations view cross-functional information systems as a strategic way to share information

resources and improve the efficiency and effectiveness of a business, thus helping it attain its strategic objectives.

Applications of information systems in the functional areas of business include:

- ✓ Production/Operations IS
- ✓ Marketing IS
- ✓ Financial IS
- ✓ Accounting IS
- ✓ Human Resource Management IS

Business firms are turning to Internet technologies to integrate the flow of information among their internal business functions and their customers and suppliers. Companies are using the World Wide Web and their intranets and extranets as the technology platform for their cross-functional and inter-organizational information systems.

In addition, many companies have moved from functional mainframe legacy systems to cross-functional client/server network applications. This typically has involved installing *enterprise resource planning* (ERP) or *supply chain management* (SCM) software. Instead of focusing on the information processing requirements of business functions, ERP software focuses on supporting the supply chain processes involved in the operations of a business.

Unit Summary

In today's era technology is the base thing for life of human being which refers to all the means for people use their inventions and discoveries to satisfy their needs and desires. The practical

application of knowledge, especially in a particular area. Technology is all about using the technical and scientific knowledge we have to help solve problems or to make life better.

By using the of modern technology we can access information's about some business company through the process of capturing, processing, storing and retrieving & communication of information in the form of numerical data, text, sound or image. The information technology department of a large company would be responsible for collecting, processing, storing information, protecting, transmitting and later retrieving information as necessary.

Review Questions

1. What is the difference between data and information?
2. What is data processing and list the steps involved in data processing?
3. List the three main integral components of ICT
4. List and describe at least 5 characteristics of computer.
5. What is the application of Information Systems in business area?
6. What are the source of information's? discuss briefly.

UNIT 2

Hardware and Software Fundamentals

Objectives

On completion of studying this unit, you are expected to:

- Understand basic organization of computer system
- Understand the meaning of arithmetic logical unit, control unit and central processing unit
- Differentiate between bit , byte and a word
- Define computer memory
- Differentiate between primary memory and secondary memory
- Differentiate between primary storage and secondary storage units
- Differentiate between input devices and output devices
- Explain the concept of software
- Distinguish between different types of software
- Differentiate application software from system software
- Define a language
- Differentiate between different types of language
- Distinguish between compiler and interpreter

2.1. Hardware

2.1.1. Introduction

In the previous lesson we discussed about the evolution of computer. In this lesson we will provide you with an overview of the basic design of a computer. You will know how different parts of a computer are organized and how various operations are performed between different parts to do a specific task. As you know from the previous lesson the internal architecture of computer may differ from system to system, but the basic organization remains the same for all computer systems.

2.1.2. Basic Computer Operations

A computer as shown in Fig. 2.1 performs basically five major operations or functions irrespective of their size and make. These are 1) it accepts data or instructions by way of input, 2) it stores data,

3) it can process data as required by the user, 4) it gives results in the form of output, and 5) it controls all operations inside a computer. We discuss below each of these operations.

1. Input: This is the process of entering data and programs in to the computer system. You should know that computer is an electronic machine like any other machine which takes as inputs raw data and performs some processing giving out processed data. Therefore, the input unit takes data from us to the computer in an organized manner for processing

2. Storage: The process of saving data and instructions permanently is known as storage. Data has to be fed into the system before the actual processing starts. It is because the processing speed of Central Processing Unit (CPU) is so fast that the data has to be provided to CPU with the same speed. Therefore the data is first stored in the storage unit for faster access and processing. This storage unit or the primary storage of the computer system is designed to do the above functionality. It provides space for storing data and instructions. The storage unit performs the following major functions:

- All data and instructions are stored here before and after processing.
- Intermediate results of processing are also stored here.

3. Processing: The task of performing operations like arithmetic and logical operations is called processing. The Central Processing Unit (CPU) takes data and instructions from the storage unit and makes all sorts of calculations based on the instructions given and the type of data provided. It is then sent back to the storage unit.

4. Output: This is the process of producing results from the data for getting useful information. Similarly the output produced by the computer after processing must also be kept somewhere inside the computer before being given to you in human readable form. Again the output is also stored inside the computer for further processing.

5. Control: The manner how instructions are executed and the above operations are performed. Controlling of all operations like input, processing and output are performed by control unit. It takes care of step by step processing of all operations inside the computer.

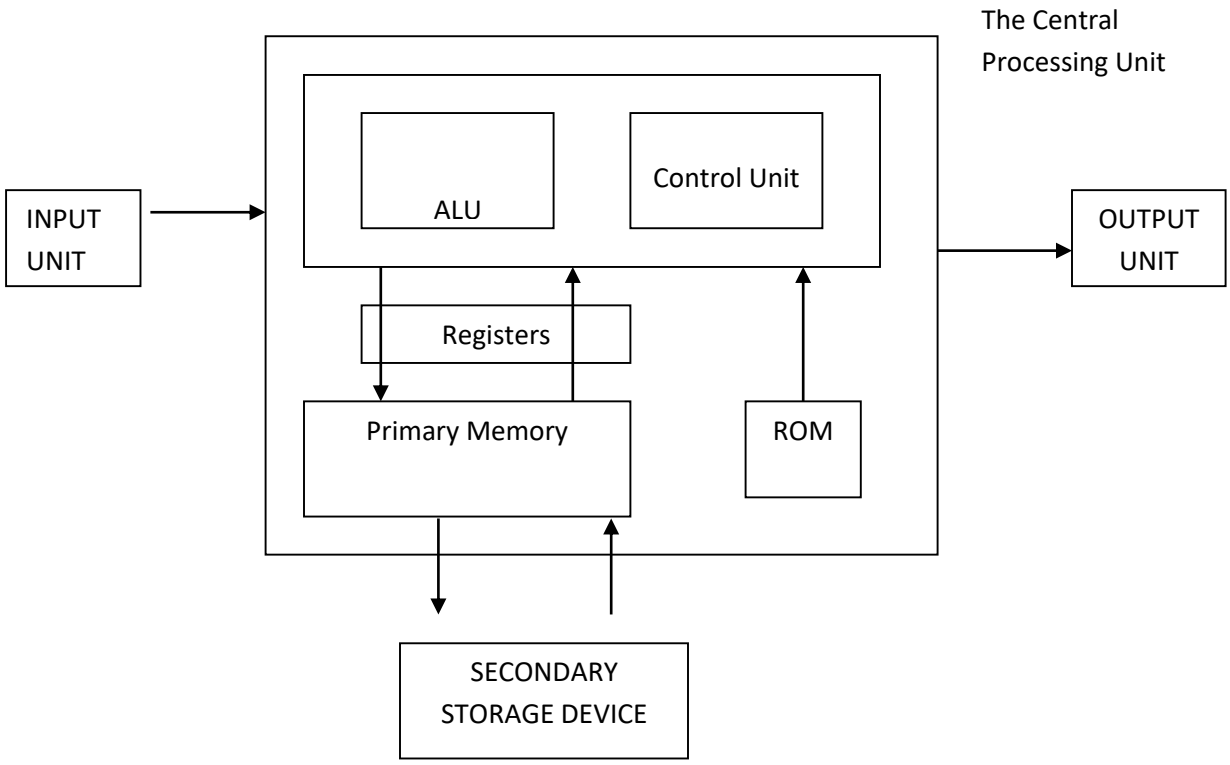


Fig. 2.1: Computer Architecture

2.1.3. Functional Units (Processing)

In order to carry out the operations mentioned in the previous section the computer allocates the task between its various functional units. The computer system is divided into three separate units for its operation. They are 1) arithmetic logical unit, 2) control unit, and 3) central processing unit.

2.1.3.1. Arithmetic Logical Unit (ALU)

After you enter data through the input device it is stored in the primary storage unit. The actual processing of the data and instruction are performed by Arithmetic Logical Unit. The major operations performed by the ALU are addition, subtraction, multiplication, division, logic and comparison. Data is transferred to ALU from storage unit when required. After processing the output is returned back to storage unit for further processing or getting stored.

2.1.3.2. Control Unit (CU)

The next component of computer is the Control Unit, which acts like the supervisor seeing that things are done in proper fashion. The control unit determines the sequence in which computer programs and instructions are executed. Things like processing of programs stored in the main memory, interpretation of the instructions and issuing of signals for other units of the computer to

execute them. It also acts as a switch board operator when several users access the computer simultaneously. Thereby it coordinates the activities of computer's peripheral equipment as they perform the input and output. Therefore it is the manager of all operations mentioned in the previous section..

2.1.3.3. Central Processing Unit (CPU)

The ALU and the CU of a computer system are jointly known as the central processing unit. You may call CPU as the brain of any computer system. It is just like brain that takes all major decisions, makes all sorts of calculations and directs different parts of the computer functions by activating and controlling the operations.

2.1.4. Memory System in a Computer

There are two kinds of computer memory: *primary* and *secondary*. Primary memory is accessible directly by the processing unit. RAM is an example of primary memory. As soon as the computer is switched off the contents of the primary memory is lost. You can store and retrieve data much faster with primary memory compared to secondary memory. Secondary memory such as floppy disks, magnetic disk, etc., is located outside the computer. Primary memory is more expensive than secondary memory. Because of this the size of primary memory is less than that of secondary memory. We will discuss about secondary memory later on.

Computer memory is used to store two things: i) instructions to execute a program and ii) data. When the computer is doing any job, the data that have to be processed are stored in the primary memory. This data may come from an input device like keyboard or from a secondary storage device like a floppy disk.

As program or the set of instructions is kept in primary memory, the computer is able to follow instantly the set of instructions. For example, when you book ticket from railway reservation counter, the computer has to follow the same steps: take the request, check the availability of seats, calculate fare, wait for money to be paid, store the reservation and get the ticket printed out. The program containing these steps is kept in memory of the computer and is followed for each request.

But inside the computer, the steps followed are quite different from what we see on the monitor or screen. In computer's memory both programs and data are stored in the binary form. You have already been introduced with decimal number system, that is the numbers 1 to 9 and 0. The binary system has only two values 0 and 1. These are called *bits*. As human beings we all understand decimal system but the computer can only understand binary system. It is because a large number of

integrated circuits inside the computer can be considered as switches, which can be made ON, or OFF. If a switch is ON it is considered 1 and if it is OFF it is 0. A number of switches in different states will give you a message like this: 110101....10. So the computer takes input in the form of 0 and 1 and gives output in the form 0 and 1 only. Is it not absurd if the computer gives outputs as 0's & 1's only? But you do not have to worry about. Every number in binary system can be converted to decimal system and vice versa; for example, 1010 meaning decimal 10. Therefore it is the computer that takes information or data in decimal form from you, convert it in to binary form, process it producing output in binary form and again convert the output to decimal form.

2.1.4.1. Primary Storage

The primary memory as you know in the computer is in the form of IC's (Integrated Circuits). These circuits are called Random Access Memory (RAM). Each of RAM's locations stores one *byte* of information. (One *byte* is equal to *8 bits*). A bit is an acronym for *binary digit*, which stands for one binary piece of information. This can be either 0 or 1. You will know more about RAM later. The Primary or internal storage section is made up of several small storage locations (ICs) called cells. Each of these cells can store a fixed number of bits called *word length***.**

Each cell has a unique number assigned to it called the address of the cell and it is used to identify the cells. The address starts at 0 and goes up to (N-1). You should know that the memory is like a large cabinet containing as many drawers as there are addresses on memory. Each drawer contains a word and the address is written on outside of the drawer.

Capacity of Primary Memory

You know that each cell of memory contains one character or 1 byte of data. So the capacity is defined in terms of byte or words. Thus 64 kilobyte (KB) memory is capable of storing 64 × 1024 = 32,768 bytes. (1 kilobyte is 1024 bytes). A memory size ranges from few kilobytes in small systems to several thousand kilobytes in large mainframe and super computer. In your personal computer you will find memory capacity in the range of 64 KB, 4 MB, 8 MB and even 16 MB (MB = Million bytes).

The following terms related to memory of a computer are discussed below:

1. **Random Access Memory (RAM):** The primary storage is referred to as random access memory (RAM) because it is possible to randomly select and use any location of the memory

directly store and retrieve data. It takes same time to any address of the memory as the first address. It is also called read/write memory. The storage of data and instructions inside the primary storage is temporary. It disappears from RAM as soon as the power to the computer is switched off. The memories, which lose their content on failure of power supply, are known as **volatile** memories .So now we can say that RAM is volatile memory.

2. **Read Only Memory (ROM):** There is another memory in computer, which is called Read Only Memory (ROM). Again it is the ICs inside the PC that form the ROM. The storage of program and data in the ROM is permanent. The ROM stores some standard processing programs supplied by the manufacturers to operate the personal computer. The ROM can only be read by the CPU but it cannot be changed. The basic input/output program is stored in the ROM that examines and initializes various equipment attached to the PC when the switch is made ON. The memories, which do not lose their content on failure of power supply, are known as **non-volatile** memories. ROM is non-volatile memory.
3. **PROM** There is another type of primary memory in computer, which is called Programmable Read Only Memory (PROM). You know that it is not possible to modify or erase programs stored in ROM, but it is possible for you to store your program in PROM chip. Once the programmers are written it cannot be changed and remain intact even if power is switched off. Therefore programs or instructions written in PROM or ROM cannot be erased or changed.
4. **EPROM:** This stands for Erasable Programmable Read Only Memory, which overcome the problem of PROM & ROM. EPROM chip can be programmed time and again by erasing the information stored earlier in it. Information stored in EPROM exposing the chip for some time ultraviolet light and it erases chip is reprogrammed using a special programming facility. When the EPROM is in use information can only be read.
5. **Cache Memory:** The speed of CPU is extremely high compared to the access time of main memory. Therefore the performance of CPU decreases due to the slow speed of main memory. To decrease the mismatch in operating speed, a small memory chip is attached between CPU and Main memory whose access time is very close to the processing speed of CPU. It is called CACHE memory. CACHE memories are accessed much faster than conventional RAM. It is used to store programs or data currently being executed or temporary data frequently used by the CPU. So each memory makes main memory to be faster and larger than it really is. It is also very expensive to have bigger size of cache memory and its size is normally kept small.

6. **Registers:** The CPU processes data and instructions with high speed, there is also movement of data between various units of computer. It is necessary to transfer the processed data with high speed. So the computer uses a number of special memory units called *registers.* They are not part of the main memory but they store data or information temporarily and pass it on as directed by the control unit.

2.1.4.2. Secondary Storage

You are now clear that the operating speed of primary memory or main memory should be as fast as possible to cope up with the CPU speed. These high-speed storage devices are very expensive and hence the cost per bit of storage is also very high. Again the storage capacity of the main memory is also very limited. Often it is necessary to store hundreds of millions of bytes of data for the CPU to process. Therefore additional memory is required in all the computer systems. This memory is called *auxiliary memory* or *secondary storage.*

In this type of memory the cost per bit of storage is low. However, the operating speed is slower than that of the primary storage. Huge volume of data are stored here on permanent basis and transferred to the primary storage as and when required. Most widely used secondary storage devices are *magnetic tapes* and *magnetic disk*.

1. **Magnetic Tape:** Magnetic tapes are used for large computers like mainframe computers where large volume of data is stored for a longer time. In PC also you can use tapes in the form of cassettes. The cost of storing data in tapes is inexpensive. Tapes consist of magnetic materials that store data permanently. It can be 12.5 mm to 25 mm wide plastic film-type and 500 meter to 1200 meter long which is coated with magnetic material. The deck is connected to the central processor and information is fed into or read from the tape through the processor. It similar to cassette tape recorder.

   Advantages of Magnetic Tape:

   - **Compact:** A 10-inch diameter reel of tape is 2400 feet long and is able to hold 800, 1600 or 6250 characters in each inch of its length. The maximum capacity of such tape is 180 million characters. Thus data are stored much more compactly on tape.
   - **Economical**: The cost of storing characters is very less as compared to other storage devices.
   - **Fast**: Copying of data is easier and fast.

- **Long term Storage and Re-usability**: Magnetic tapes can be used for long term storage and a tape can be used repeatedly without loss of data.

2. **Magnetic Disk:** You might have seen the gramophone record, which is circular like a disk and coated with magnetic material. Magnetic disks used in computer are made on the same principle. It rotates with very high speed inside the computer drive. Data is stored on both the surface of the disk. Magnetic disks are most popular for *direct access* storage device. Each disk consists of a number of invisible *concentric circles* called *tracks*. Information is recorded on tracks of a disk surface in the form of tiny magnetic spots. The presence of a magnetic spot represents *one bit* and its absence represents zero bit. The information stored in a disk can be read many times without affecting the stored data. So the reading operation is non-destructive. But if you want to write a new data, then the existing data is erased from the disk and new data is recorded.

- **Floppy Disk:** It is similar to magnetic disk discussed above. They are 5.25 inch or 3.5 inch in diameter. They come in single or double density and recorded on one or both surface of the diskette. The capacity of a 5.25-inch floppy is 1.2 mega bytes whereas for 3.5 inch floppy it is 1.44 mega bytes. It is Cheaper than any other storage devices and is portable. The floppy is a low cost device particularly suitable for personal computer.
- **Optical Disk:** With every new application and software there is greater demand for memory capacity. It is the necessity to store large volume of data that has led to the development of optical disk storage medium. Optical disks can be divided into the following categories:

I. *Compact Disk/ Read Only Memory (CD-ROM)*: CD-ROM disks are made of reflective metals. CD-ROM is written during the process of manufacturing by high power *laser beam.* Here the storage density is very high, storage cost is very low and access time is relatively fast. Each disk is approximately 4 1/2 inches in diameter and can hold over 600 MB of data. As the CD-ROM can be *read only* we cannot write or make changes into the data contained in it.

II. *Write Once, Read Many (WORM)*: The inconvenience that we can not write any thing in to a CD-ROM is avoided in WORM. A WORM allows the user to write data permanently on to the disk. Once the data is written it can never be erased without physically damaging the disk. Here data can be recorded from keyboard, video scanner, OCR equipment and other devices. The advantage of WORM is that it can store vast amount of data amounting

to gigabytes (10^9 bytes). Any document in a WORM can be accessed very fast, say less than 30 seconds.

III. *Erasable Optical Disk*: These are optical disks where data can be written, erased and re-written. This also applies a laser beam to write and re-write the data. These disks may be used as alternatives to traditional disks. Erasable optical disks are based on a technology known as *magnetic optical* (MO). To write a data bit on to the erasable optical disk the MO drive's laser beam heats a tiny, precisely defined point on the disk's surface and magnetizes it.

2.1.5. Input Output Devices

A computer is only useful when it is able to communicate with the external environment. When you work with the computer you feed your data and instructions through some devices to the computer. These devices are called Input devices. Similarly computer after processing gives output through other devices called output devices. For a particular application one form of device is more desirable compared to others. We will discuss various types of I/O devices that are used for different types of applications. They are also known as peripheral devices because they surround the CPU and make a communication between computer and the outer world.

2.1.5.1. Input Devices

Input devices are necessary to convert our information or data in to a form which can be understood by the computer. A good input device should provide timely, accurate and useful data to the main memory of the computer for processing followings are the most useful input devices.

1. **Keyboard: -** This is the standard input device attached to all computers. The layout of keyboard is just like the traditional typewriter of the type QWERTY. It also contains some extra command keys and function keys. It contains a total of 101 to 104 keys. A typical keyboard used in a computer is shown in Fig. 2.6. You have to press correct combination of keys to input data. The computer can recognize the electrical signals corresponding to the correct key combination and processing is done accordingly.
2. **Mouse: -** Mouse is an input device shown in Fig. 2.7 that is used with your personal computer. It rolls on a small ball and has two or three buttons on the top. When you roll the mouse across a flat surface the screen censors the mouse in the direction of mouse movement. The cursor moves very fast with mouse giving you more freedom to work in any direction. It is easier and faster to move through a mouse.

3. **Scanner:** The keyboard can input only text through keys provided in it. If we want to input a picture the keyboard cannot do that. Scanner is an optical device that can input any graphical matter and display it back. The common optical scanner devices are Magnetic Ink Character Recognition (MICR), Optical Mark Reader (OMR) and Optical Character Reader (OCR).

- **Magnetic Ink Character Recognition (MICR):** - This is widely used by banks to process large volumes of cheques and drafts. Cheques are put inside the MICR. As they enter the reading unit the cheques pass through the magnetic field which causes the read head to recognize the character of the cheques.
- **Optical Mark Reader (OMR):** This technique is used when students have appeared in objective type tests and they had to mark their answer by darkening a square or circular space by pencil. These answer sheets are directly fed to a computer for grading where OMR is used.
- **Optical Character Recognition (OCR):** - This technique unites the direct reading of any printed character. Suppose you have a set of hand written characters on a piece of paper. You put it inside the scanner of the computer. This pattern is compared with a site of patterns stored inside the computer. Whichever pattern is matched is called a character read. Patterns that cannot be identified are rejected. OCRs are expensive though better the MICR.

2.1.5.2. Output Devices

Output devices: Output devices display information in a way that you can understand. They are devices that bring information out of a computer**.** Common output formats are printed-paper, sound, video and on-screen documents. They are all of those things that let your computer 'talk' back to you and present information. Examples of devices for these formats are:

Monitors or Visual Display Units (VDUs): The most common output device is a **monitor**. It looks a lot alike a TV and houses the computer screen. The monitor allows you to 'see' what you and the computer are doing together. It is a device that displays a video signal, similar to a television, to provide the user with information and an interface with which to interact.

These are the most common output device and include:

- **Desktop monitors** which are also known as Cathode Ray Tube (CRT)

- **Liquid Crystal Displays (LCD)** which are also known as Thin Film Transistors (TFT). Softcopy output generally refers to the display on a monitor, the output devices that many people use the most. Monitors run under the control of a graphic display adapter card plugged into an expansion slot on the system board. The adapter allows information to leave the computer and appear on the monitor (if you are working with graphics and video, such as in multimedia application this card will also have a graphic coprocessor, accelerator circuitry and video support.) The display adapter comes with its own RAM called VRAM or video RAM. VRAM controls the resolutions of images displayed on the monitor, as well as the number of colors and the speed at which the images are displayed. In addition the more video memory you have, the higher the resolution and the more colors you can display. A video display adapter with 1 megabyte of memory will support 16.7 million colors.

The clarity of display screen depends on three qualities. Resolution, dot pitch, and refresh rate.

- ***Resolution***: - the clarity or sharpness of a display screen; the more the pixels per square inch, the better the resolution.

Resolution is expressed in terms of formula: **Columns of pixel** X **rows of pixels**

Thus, a screen with 640x480 pixel has a total of 307, 200 pixels. This screen will be less clear and sharp than screen, with higher resolution.

Some standard resolution - 640x480 - 1280x1024

- 800x600 - 1600x1200

- 1024x768

- ***Dot pitch***: - is the amount of space between pixels
- ***Refresh rate***: - is the number of times per second that the pixels are recharged so that their glows remain bright
- ***Colors***: - display screen can be either mono chrome or color. ***Color***: - color display screen also called RGB (for red, green, blue) can display between 16 colors and 16.7 million colors, depending on their type. The number of color is referred to as the color depth or bit depth.

- ***Monochrome***: - monochrome displays screens display only one color on a background usually black on white, amber on black or green on black.

- **Printers**: - a peripheral device that produces a hard (usually paper) copy of a document. It takes what you see on the computer screen and prints it on paper. There are two types of printers. The **inkjet printer** uses inks to print. It is the most common printer used with home computers and it can print in either black and white or color. **Laser printers** run much faster because they use lasers to print. Laser printers are mostly used in businesses. Black and white laser printers are the most common, but some print in color, too.

  - ✓ **Laser printers** produce a very high quality output, are very quiet and very fast. Laser color printers are quite expensive to buy.
  - ✓ **Ink-jet printers** offer black and white or color printing with reduced levels of quality and speed. Color ink jet printers are cheaper to buy than color laser printers.
  - ✓ **Dot-matrix printers** are not so common today. They are comparatively noisy and low quality but are cheap to run and are used when carbon copies or duplicates need to be made, such as for wage slips. Also, they are useful in dirty environments such as a garage because they are much sturdier than the other two types of printer.

- **Plotters** :- A plotter can be used to produce high quality, accurate, A3 size or bigger drawings. They are usually used for Computer Aided Design (**CAD**) and Computer Aided Manufacture (CAM) applications such as printing out plans for houses or car parts.
- **Speakers :-** Speakers are output devices that allow you to hear sound from your computer. Computer speakers are just like stereo speakers. There are usually two of them and they come in various sizes. It is a device that converts analog audio signals into the equivalent air vibrations in order to make audible sound.

2.2. Software Fundamentals

2.2.1. Introduction

In the previous lesson we discussed about the different parts and configurations of computer. It has been mentioned that programs or instructions have to be fed to the computer to do specific task. So it is necessary to provide sequence of instructions so that your work can be done. We can divide the computer components into two major areas, namely, *hardware* and *software*. Hardware is the machine itself and its various individual equipment. It includes all mechanical, electronic

and magnetic devices such as monitor, printer, electronic circuit, floppy and hard disk. In this lesson we will discuss about the other part, namely, software.

2.2.2. What Is Software?

As you know computer cannot do anything without instructions from the user. In order to do any specific job you have to give a sequence of instructions to the computer. This set of instructions is called a computer *program*. Software refers to the set of computer programs, procedures that describe the programs, how they are to be used. We can say that it is the collection of programs, which increase the capabilities of the hardware. Software guides the computer at every step where to start and stop during a particular job. The process of software development is called *programmin*g.

You should keep in mind that software and hardware are complementary to each other. Both have to work together to produce meaningful result. Another important point you should know that producing software is difficult and expensive.

2.2.3. Software Types

Computer software is normally classified into two broad categories.

- ✓ Application Software
- ✓ System software

Application Software: Application Software is a set of programs to carry out operations for a specific application. For example, payroll is an application software for an organization to produce pay slips as an output. Application software is useful for word processing, billing system, accounting, producing statistical report, analysis of numerous data in research, weather forecasting, etc. In later modules you will learn about MS WORD, Lotus 1-2-3 and dBASE III Plus. All these are application software's.

Another example of application software is programming language. Among the programming languages COBOL (Common Business Oriented Language) is more suitable for business application whereas FORTRAN (Formula Translation) is useful for scientific application. We will discuss about languages in next section.

System Software: You know that an instruction is a set of programs that has to be fed to the computer for operation of computer system as a whole. When you switch on the computer the programs written in ROM is executed which activates different units of your computer and makes

it ready for you to work on it. This set of program can be called system software. Therefore system software may be defined as a set of one or more programs designed to control the operation of computer system.

System software are general programs designed for performing tasks such as controlling all operations required to move data into and out of the computer. It communicates with printers, card reader, disk, tapes etc. monitor the use of various hardware like memory, CPU etc. Also system software are essential for the development of applications software. System Software allows application packages to be run on the computer with less time and effort. *Remember that it is not possible to run application software without system software*.

Development of system software is a complex task and it requires extensive knowledge of computer technology. Due to its complexity it is not developed in house. Computer manufactures build and supply this system software with the computer system. DOS, UNIX and WINDOWS are some of the widely used system software. Out of these UNIX is a multi-user operating system whereas DOS and WINDOWS are PC-based. We will discuss in detail about DOS and WINDOWS in the next module.

2.2.4. What Is Language?

You are aware with the term language. It is a system of communication between you and me. Some of the basic natural languages that we are familiar with are English, Hindi, Oriya etc. These are the languages used to communicate among various categories of persons. But how you will communicate with your computer. Your computer will not understand any of these natural languages for transfer of data and instruction. So there are programming languages specially developed so that you could pass your data and instructions to the computer to do specific job. You must have heard names like FORTRAN, BASIC, COBOL etc. These are programming languages. So instructions or programs are written in a particular language based on the type of job. As an example, for scientific application FORTRAN and C languages are used. On the other hand COBOL is used for business applications.

2.2.4.1. Programming Languages

There are two major types of programming languages. These are Low Level Languages and High Level Languages. Low Level languages are further divided in to *Machine language* and *Assembly language*.

2.2.4.2. Low Level Languages

The term low level means closeness to the way in which the machine has been built. Low level languages are machine oriented and require extensive knowledge of computer hardware and its configuration.

(a) Machine Language

Machine Language is the only language that is directly understood by the computer. It does not needs any translator program. We also call it machine code and it is written as strings of 1's (one) and 0's (zero). When this sequence of codes is fed to the computer, it recognizes the codes and converts it in to electrical signals needed to run it. For example, a program instruction may look like this: 1011000111101

It is not an easy language for you to learn because of its difficult to understand. It is efficient for the computer but very inefficient for programmers. It is considered to the first generation language. It is also difficult to debug the program written in this language.

Advantage

The only advantage is that program of machine language run very fast because no translation program is required for the CPU.

Disadvantages

1. It is very difficult to program in machine language. The programmer has to know details of hardware to write program.
2. The programmer has to remember a lot of codes to write a program which results in program errors.
3. It is difficult to debug the program.

(b) Assembly Language

It is the first step to improve the programming structure. You should know that computer can handle numbers and letter. Therefore some combination of letters can be used to substitute for number of machine codes. The set of symbols and letters forms the Assembly Language and a translator program is required to translate the Assembly Language to machine language. This translator program is called `*Assembler*'. It is considered to be a second-generation language.

Advantages:

1. The symbolic programming of Assembly Language is easier to understand and saves a lot of time and effort of the programmer.
2. It is easier to correct errors and modify program instructions.
3. Assembly Language has the same efficiency of execution as the machine level language. Because this is one-to-one translator between assembly language program and its corresponding machine language program.

Disadvantages:

1. One of the major disadvantages is that assembly language is machine dependent. A program written for one computer might not run in other computers with different hardware configuration.

2.2.4.3. High Level Languages

You know that assembly language and machine level language require deep knowledge of computer hardware where as in higher language you have to know only the instructions in English words and logic of the problem irrespective of the type of computer you are using.

Higher level languages are simple languages that use English and mathematical symbols like +, -, %, / etc. for its program construction. You should know that any higher level language has to be converted to machine language for the computer to understand.

Higher level languages are problem-oriented languages because the instructions are suitable for solving a particular problem. For example COBOL (Common Business Oriented Language) is mostly suitable for business oriented language where there is very little processing and huge output. There are mathematical oriented languages like FORTRAN (Formula Translation) and BASIC (Beginners All-purpose Symbolic Instruction Code) where very large processing is required.

Thus a problem oriented language designed in such a way that its instruction may be written more like the language of the problem. For example, businessmen use business term and scientists use scientific terms in their respective languages.

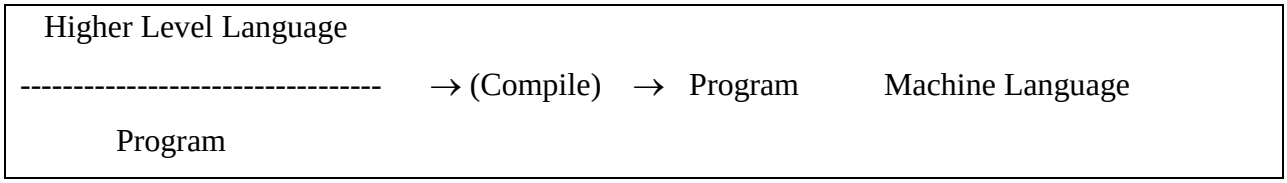
Advantages of High Level Languages

Higher level languages have a major advantage over machine and assembly languages that higher level languages are easy to learn and use. It is because that they are similar to the languages used by us in our day to day life.

2.2.4.4. Compiler

It is a program translator that translates the instruction of a higher level language to machine language. It is called compiler because it compiles machine language instructions for every program instructions of higher level language. Thus compiler is a program translator like assembler but more sophisticated. It scans the entire program first and then translates it into machine code.

The programs written by the programmer in higher level language is called *source program*. After this program is converted to machine languages by the compiler it is called *object program.*



A compiler can translate only those source programs, which have been written, in that language for which the compiler is meant for. For example FORTRAN compiler will not compile source code written in COBOL language.

Object program generated by compiler is machine dependent. It means programs compiled for one type of machine will not run in another type. Therefore every type of machine must have its personal compiler for a particular language. Machine independence is achieved by using one higher level language in different machines.

2.2.4.5. Interpreter

An interpreter is another type of program translator used for translating higher level language into machine language. It takes one statement of higher level languages, translate it into machine language and immediately execute it. Translation and execution are carried out for each statement. It differs from compiler, which translate the entire source program into machine code and does involve in its execution.

The advantage of interpreter compared to compiler is its fast response to changes in source program. It eliminates the need for a separate compilation after changes to each program. Interpreters are easy to write and do not require large memory in computer. The disadvantage of interpreter is that it is time consuming method because each time a statement in a program is executed then it is first translated. Thus compiled machine language program runs much faster than an interpreted program.

Unit Summary

A computer can be defined as an electronic device that accepts data from an input device, processes it, stores it in a disk and finally displays it on an output device such as a monitor. Computers have two main parts: hardware and software components which work together for common purpose.

A computer's **hardware** is the physical parts of the computer; the parts that you can see and touch and it can be grouped into four main components as follows.

1. Input: This is the process of entering data and programs in to the computer system. You should know that computer is an electronic machine like any other machine which takes as inputs raw data and performs some processing giving out processed data. Therefore, the input unit takes data from us to the computer in an organized manner for processing

2. Storage: The process of saving data and instructions permanently is known as storage. Data has to be fed into the system before the actual processing starts. It is because the processing speed of Central Processing Unit (CPU) is so fast that the data has to be provided to CPU with the same speed. Therefore the data is first stored in the storage unit for faster access and processing. This storage unit or the primary storage of the computer system is designed to do the above functionality. It provides space for storing data and instructions. The storage unit performs the following major functions:

- All data and instructions are stored here before and after processing.
- Intermediate results of processing are also stored here.

3. Processing: The task of performing operations like arithmetic and logical operations is called processing. The Central Processing Unit (CPU) takes data and instructions from the storage unit and makes all sorts of calculations based on the instructions given and the type of data provided. It is then sent back to the storage unit.

4. Output: This is the process of producing results from the data for getting useful information. Similarly the output produced by the computer after processing must also be kept somewhere inside the computer before being given to you in human readable form. Again the output is also stored inside the computer for further processing.

5. Control: The manner how instructions are executed and the above operations are performed. Controlling of all operations like input, processing and output are performed by control unit. It takes care of step by step processing of all operations inside the computer.

Software is a set of programs that instruct the computer to perform a certain action. There are two types of software: system software and application soft ware. System software primarily exists for the computer itself. One major type of system software is operating system (OS) software. While, application software tells the computer how to accomplish tasks the user requires, such as creating a document or editing a graphic image. Examples of application software's are Microsoft office and programming languages.

The computer performs its functions based on the instructions given by the user. The set of such instructions written for a particular task is known as a computer program. Program is the set of instructions that tells the computer how to process the data, into the form desired by the user. The language in which a computer program is written is known as programming language. The programming languages are classified as Low-level language and High-level language. Low-level language is further classified as Machine language and Assembly language.

Review Questions

1. Distinguish between bit and byte and Define volatile and non-volatile memory.
2. Define kinds of computer memory primary and secondary.
3. Distinguish between impact and non-impact printers.
4. What are program, programming language and software?

5. Differentiate between system software and application software.
6. What is the difference between FORTRAN and COBOL?
7. Differentiate between machine language and Assembly language.
8. What is the difference between interpreter and compiler?
9. What is software and hardware? What is computer Language?
10. Name the three different categories of computer languages.
11. What is machine language? Why is it required?
12. What are advantages and disadvantages of machine language .
13. What is assembly language? What are its advantages over machine languages?
14. What is the difference between source program and object program?
15. What is higher level languages? Why are higher level languages are easier to use.
16. What is compiler? Why is it required?
17. What is interpreter? How does it differ from compiler?

UNIT 3

Basic application software

Objectives

On completion of studying this unit, you are expected to:

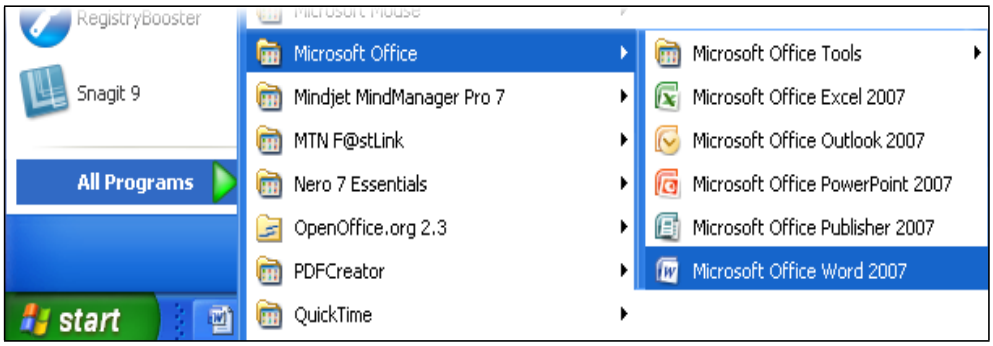
•Define and understand how to use Microsoft office word •Define and understand how to use Microsoft office Excel/ spreadsheet • Define and understand how to use Microsoft office presentation software

3.1. Word Processing

3.1.1. Starting Word

Ready? Then I'll show you how to start Microsoft Word:

1. Click the ***Start*** button - the Start menu appears
2. Point to the entry for ***All Programs***
3. Click on the entry for ***Microsoft Office – Word 2007***



The Microsoft Word program will load, and a blank document will appear on your screen.

When you need help

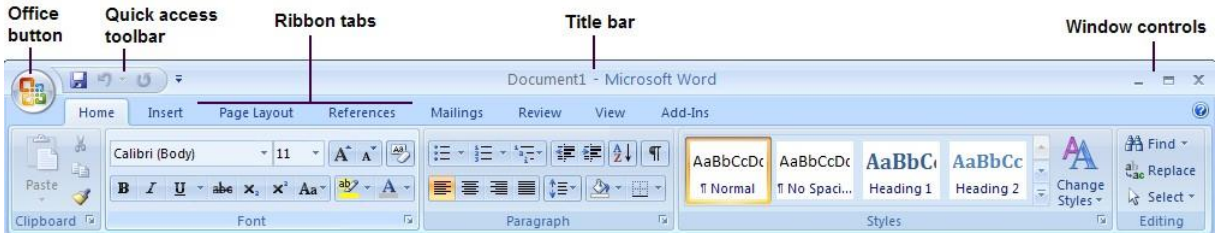
At the top right corner of your MS Word screen, you'll see a small blue circle containing a question mark; just click on the question mark to open the MS Word Help window. You can also access the Help window by pressing the [F1] key on your keyboard. To get help on a specific topic, type a word or phrase in the blank area at the top of the window and then click the ***Search*** button; alternatively, you can click on any of the Help topics listed in the window. Click the X in the top right corner to close the Help window.

An overview of Word

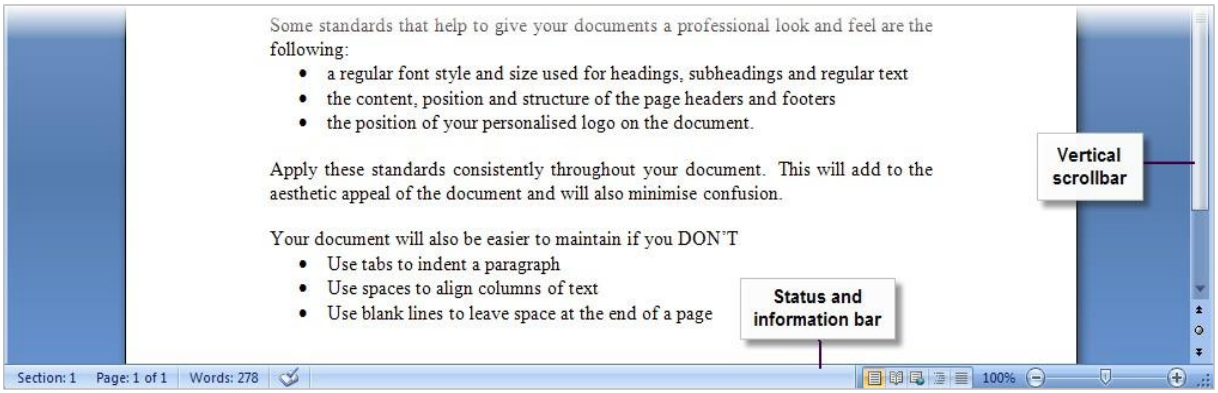
Now it's time for an overview of Word 2007!

The MS Word 2007 window

If you've used previous versions of Word, you'll notice that the old menu system has been replaced by the *Ribbon* and the *Office button*.



- ✓ The ***Office button*** contains a menu of file-related commands. Click the Office Button to see the available commands. Select a command by clicking on it.
- ✓ The ***Quick access*** *toolbar* provides a set of frequently used commands. The default options are to save a file, to undo the last action, and to repeat your most recent action.
- ✓ The ***Ribbon tabs*** provide you with a set of tools that are relevant to what you are currently doing. In the example above, the ***Home*** tab contains formatting and editing options.
- ✓ The ***Title bar*** displays the name of the program and the name of the current document. If you haven't named the document yet, then it will be called something like Document1.
- ✓ ***Window controls*** are used to change the size of a window, or to close it.
- ✓ The ***Vertical scrollbar*** is used to scroll up and down the page. You can also click on the little down arrow below the scrollbar to move down the page. If your page is wider than the screen display, then you will also see a Horizontal scrollbar across the bottom of the window.
- ✓ The ***Status and information*** *bar* displays useful information about your document, such as the page count and number of words.



Options for viewing a document in Word

Word offers you five different views of your "virtual piece of paper":

- ✓ Print layout
- ✓ Full screen reading
- ✓ Web layout
- ✓ Outline view
- ✓ Draft view

For our purposes, Print layout is the best document view to work with. In Print layout, the piece of paper on your screen looks almost exactly as it will appear when printed. You'll be able to see precisely where the page breaks and the edges of the paper fall.

It's easy to switch between the different page views:

1. Look at the right end of the status and information bar at the bottom of the window. Here you'll find a set of five miniature buttons.

2. The Print layout button is the first button on the left.
3. You can click on any of the other buttons to change to the corresponding view.

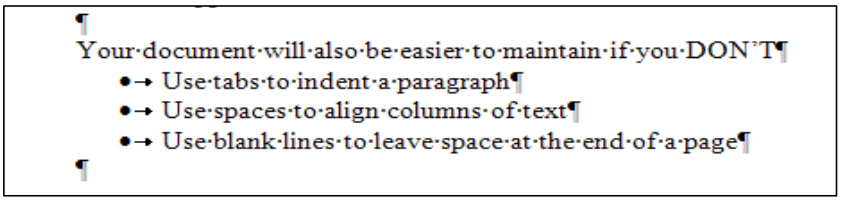
Showing non-printing characters

Non-printing characters are characters that are used to format your document, but that aren't displayed as text on your screen. For example, when you press the [TAB] or [ENTER] key, a formatting character is stored at the corresponding point in your document.

Here's how to display the non-printing characters in your document:

1. Click the ***Show/Hide*** button ¶ on the Home ribbon.

2. Now the non-printing characters will appear in your document. Each time you press [ENTER], you'll see the paragraph symbol ¶ Spaces are indicated by dots · The [TAB] key is indicated by a small arrow.



3.Click the ***Show/Hide*** button ¶ again to hide the non-printing characters from view.

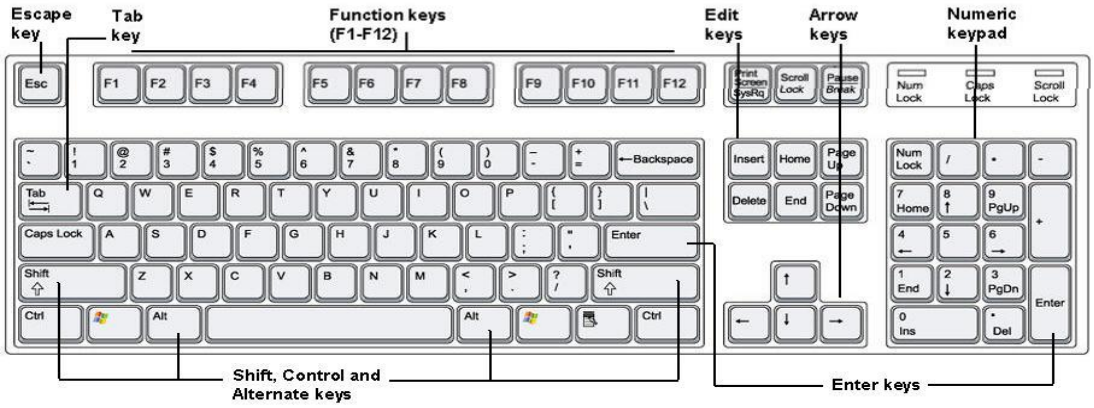
These symbols can be very useful when you are looking for formatting errors in your document. Deactivate them if you want to see what your document will look like when printed.

Writing right away – some important buttons and guidelines

When you start Word, you effectively roll a new, empty page into your Word "typewriter". In addition, the cursor (the writing-mark) blinks contentedly and waits for your text. So what are you waiting for then? Start typing! Write down whatever comes into your head!

Typing upper-case letters

You want to type UPPER-CASE letters? Just hold down the [SHIFT] key, and type the letters that you'd like in upper case. You'll find the [SHIFT] key in two places on your keyboard.
Are you typing only upper-case letters? Then you probably pressed the [CAPS LOCK] key by mistake. It's usually located just above the [SHIFT] key on the left-hand side. To deactivate this function, simply press [CAPS LOCK] again. On most keyboards, you'll recognize such "toggle keys" immediately, since they control a series of little lights (usually green) on the upper right side of your keyboard.



Rules for entering text

Please type the following text. **Do not press [ENTER] until the end of the paragraph**.

This is a short note to tell you briefly about my experiences on my first day at university. I was very excited but I was also a bit scared and wasn't sure whether I was going to find my way around. In fact it all went very well. There were lots of people I could ask, and all the other new students were just as confused. I am still having a problem finding all my lecture venues though.

You'll notice that in Word, line breaks occur automatically. You should only press [ENTER] if you really want to start a new paragraph. You'll also press the [ENTER] key if you want to move on to a new line after writing only a few words. For example, you might want to do this if you're making a list or typing a short passage of text. Whatever you do, don't press [ENTER] after each line of continuous text! That makes it very difficult to edit your writing. But do leave a space after every punctuation mark that is, after full stops, commas, or exclamation marks.

Correcting mistakes

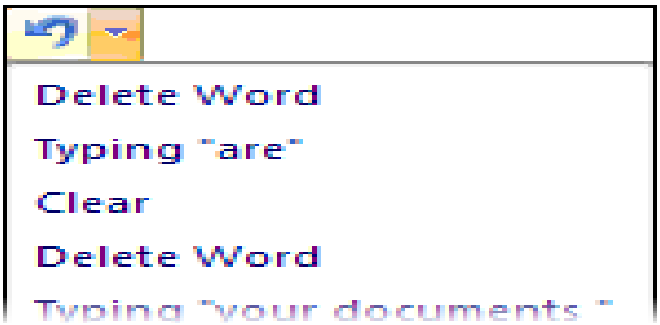
You made a mistake? That's not so bad! There is a wonderful key that helps you correct your mistakes, called the [BACKSPACE] key. You'll find it directly above the [ENTER] key. Each press of the [BACKSPACE] key deletes one character to the left of the cursor.

3.1.2. Undoing steps

Instead of erasing one word, you'd like to undo several steps at once? No problem!

1. Each press of the ***Undo*** button (on the Quick Access toolbar) takes you one step backwards.
2. If you click the little down arrow next to the ***Undo*** button, you'll see a list of all

the steps you've taken so far. Using this list, you can select the specific step(s) that you want to undo.



Safety first: saving documents

Hey! You're writing and writing, but have you saved your document? Currently the document exists only in your computer's memory, which means that it could get lost at any second. Your computer's memory is a fleeting electronic storehouse. If there's a power failure, or your computer crashes (the system hangs), then all the data in memory will be lost!

The solution to the problem? Save your work as soon (and as often) as you possibly can.

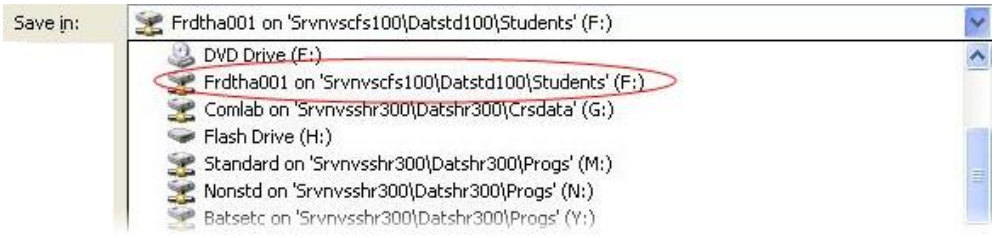
3.1.3. Saving data for the first time

Here's what to do if you're saving a file for the first time:

1. Click the ***Save*** button on the Quick Access toolbar  . You'll recognise it by the picture of a diskette on it.
2. The Save As window will appear.

Normally, the MY DOCUMENTS folder is already selected. This is **NOT** where you are to save! The MY DOCUMENTS folder is on the C: drive, and to prevent it accumulating files for lots of students, it is cleared out daily. (Even if it wasn't cleared out, to access it you would have to use the exact same computer every time you wanted to work on a file.)

3. Instead, click the drop-down arrow next to ***Save In***.



4. Click on the drive (F:) that shows your student number.
5. Now look at the ***File name*** field. Word has already entered a placeholder name for you, usually based on the first few words that you typed. But you don't want this name!
6. Overwrite the placeholder name by typing your own file name in the field, eg My First File.
7. Click the ***Save*** button. Your document will be saved with the name you gave it, in the F: drive that you selected. Note that the new file name is now displayed on Word's title bar.

Saving regularly

Now you've saved your file for the first time, but that's not enough! You need to keep saving your work at regular intervals.

1. To save, click the ***Save*** button on the Quick Access toolbar from time to time. 
2. Or you can use the keyboard shortcut: press [CTRL] + [S].
3. Your file will be saved without a lot of fuss.

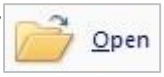
Why doesn't the first dialogue box appear anymore? The answer to this question is simple. You gave the file a name and specified its location the first time you saved it. Now Word just saves the file under the same name and in the same place!

Using files and folders

3.1.4. Opening your documents

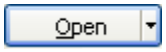
You'd like to work more on a document that you previously started? Just open the appropriate folder and haul your work out again. There are two different approaches you can use for opening existing Word documents.

To open a document directly from Word:

1. Click the Office button. A list of your most recent documents is displayed on the right of the file menu. Click any file name to open it.
2. If the file you want is not on the list, then select the ***Open*** command. 

The button looks like a folder that's being opened.
3. The Open dialog box will appear.
   - ✓ Click on the down arrow beside the ***Look In*** field and select the file location (probably your F: drive).

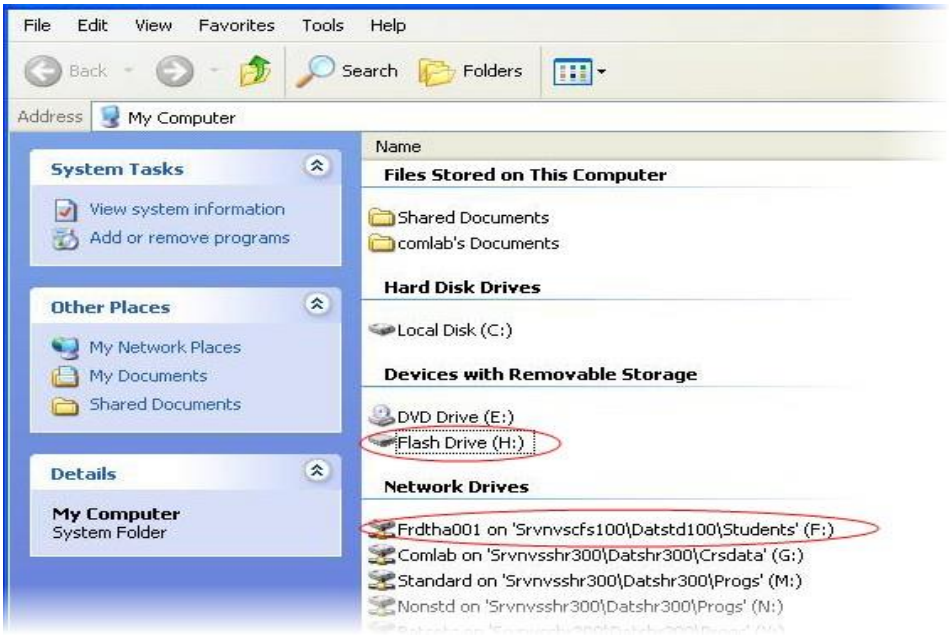
✓ Then choose your file by clicking its entry on the list.

4. Click the ***Open*** button in the lower right corner of the dialog box. 

Alternatively, you can double-click on the file name to open it.
5. The contents of your file will be displayed on the screen. Note that several documents can be open simultaneously – just repeat this process.

To open a document from inside My Computer:

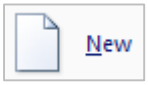
1. Select MY COMPUTER from the ***Start*** menu or by double-clicking its desktop icon.
2. Double-click on the drive containing the required folder and file (this could also be a flash drive).



3. Double-click the folder you saved your document in, to see the files that it contains.
4. Double-click the required file name, or else select it and press [ENTER]. The file will open in Word.

A new empty document

You need a new, empty document? Nothing could be easier! If you already have a document open on your screen, then you don't even have to close it (although this might be a good time to save it!).



1. Click the Office button and select the ***New*** option, followed by ***Blank Document***.
2. Alternatively, you can select the ***Insert*** tab on the ribbon and click the ***Blank Page*** button on the extreme left. You'll recognize it by the icon of a dog-eared white page.
3. A new "sheet" will appear in your Word typewriter. Look at the title bar. You'll know the

new document by its placeholder file name, for example Document2.

4. In addition, if you look at the Windows taskbar at the bottom of the screen, you'll see a new button for your new document.

Don't forget to save your new document with your own file name, and in the correct location! If you'd like to move from one document to another, then all you have to do is to click the corresponding button on the Windows taskbar.

Creating a new folder

You'd like to have a new folder in which you can save your work? You can create a new "data area" even from within Word. You do this using the Save As dialog box.

1. Click on the Office button and select the ***Save As*** option.
2. Click the ***Create New Folder*** button  .
3. Now you'll see a dialog box where you'll name your new folder. Type the new name in, for example Training.
4. Click ***OK***.
5. Great service! Word will automatically switch over to your new folder.
6. Give your file a name (the previous name that you entered was the *folder* name) and click on the ***Save*** button.

Save or Save As?

By now you've probably noticed that the Office button offers you both a ***Save*** and a ***Save As*** command. So what's the difference? Well, when you save a file for the first time, it makes no difference whatsoever! Really – it doesn't matter whether you click on the ***Save*** icon, or whether you select ***Save*** or ***Save As*** from the Office button. Word will display the ***Save As*** dialogue box so that you can specify a file name and location.

Only if you save the file again will you notice a difference:

- ✓ If you want to keep the same file name and location, then the ***Save*** icon and the ***Save*** menu option will both save the file with no further comment.
- ✓ If you'd like to save an existing document under a new name, or in a different location, then you need to use the ***Save As*** command. This will display the ***Save As*** dialogue box so that you can specify another file name and/or a new folder.

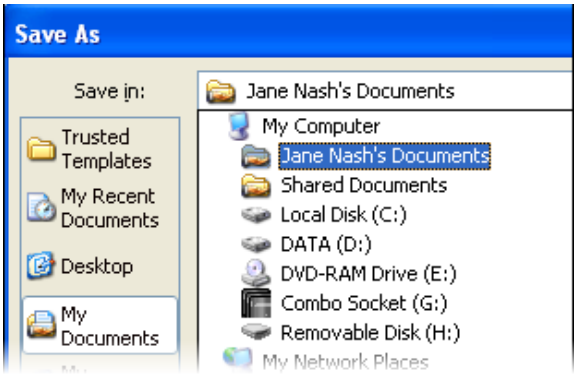
Saving a file on to a flash drive or diskette

Would you like to save your file to a flash drive or diskette? You might want to do this to make a backup copy, or to continue working on your file using another computer.

WARNING: you should never save your documents *only* on a diskette or flash drive. These can be easily corrupted and your data may be lost. It's safer to store your work on the network drive.

I'm assuming that you want to save a document that's already been saved to the network drive, and so it already has a file name. Here's what to do:

1. Click the Office button and select the ***Save As*** command.
2. In the dialog box, click the down arrow next to the ***Save In*** field.



3. From the list, select the device on which you want to save your file.
   - ✓ Stiffy disk drives are typically drive A:.
   - ✓ Flash drives have a letter allocated by the operating system, and may be labelled by the device name or as a *Removable Disk*.
4. Click the ***Save*** button.

3.1.5. Closing a document

You'd like to close the current document without quitting Word?

✓ Just click the Office button and select the ***Close*** command

You'll see the Word screen without any document.

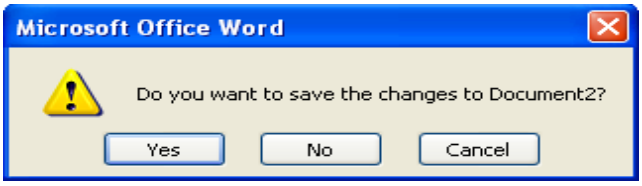
Closing Word

There are several methods you can use to end Word:

✓ Click the Office button, and then click the ***Exit Word*** button in the bottom right corner.

✓ Alternatively, close the window by clicking on the X at the far right edge of the title bar.

If you've made any changes since you last saved your document, then you'll be asked whether you want to save your changes. You can return to your document by pressing [ESC] or clicking the ***Cancel*** button.



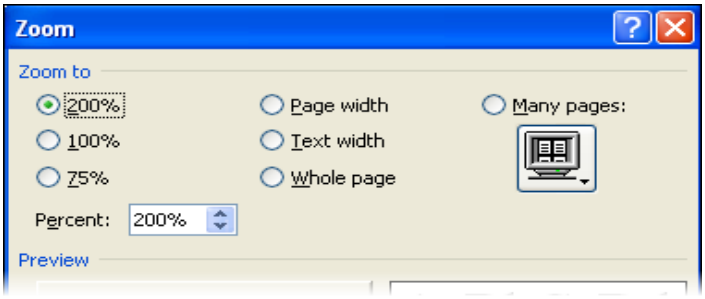
The view on the screen

Setting the zoom factor

Did you know that you can adjust the size of the text onscreen to suit your taste? Just use the zoom function! Here's how you find out what the zoom factor is, and set it as you like it:

1. You'd like to find out what the zoom factor is? Just look on the ***Zoom*** button, which is located towards the right end of the status and information bar at the bottom of the Word window.

2. The picture is too big or too small? Then drag the *slider* at the right of the ***Zoom*** button, or else click the button to open the Zoom dialog box.
3. The dialog box lets you choose a preset zoom factor, or else you can type your own value in the ***Percent*** field.

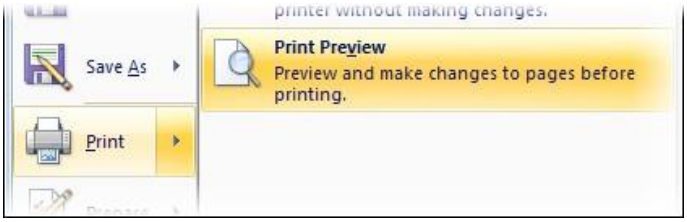


4. Click ***OK***, and the screen will immediately appear as you want it.

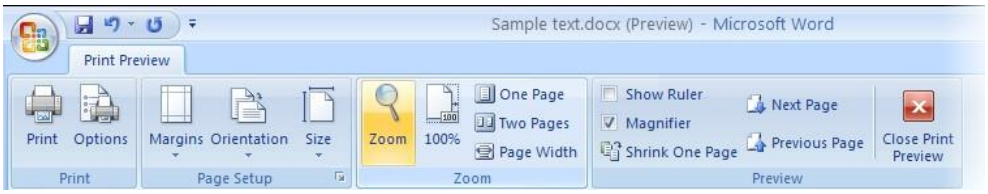
Viewing a document with Print Preview

Word has a cool feature that you'll definitely want to know about. I'm talking about print Preview. To call it up:

1. Click the Office button, select ***Print*** and then ***Print Preview***. The Print Preview icon shows a dog-eared page with a magnifying glass.



2. Now you're in ***Print Preview*** mode. You see the document exactly as it will look when printed.
3. Once again, you can adjust the zoom factor to suit yourself. There is a Zoom button on the Print Preview ribbon, as well as the usual zoom controls on the status bar. Note that the ***Many Pages*** option in the ***Zoom*** dialogue box allows you to display several pages at once, depending on the resolution of your screen.



4. To close Print Preview, click the ***Close Print Preview*** button on the right of the ribbon.

3.1.6. Selecting text

Before you can do anything to your text, you need to select the parts you want to act on. Selected text passages are easy to manipulate. You can cut them out and paste them in elsewhere in your document. You'll find out more about this on the next few pages.

Selecting a word

You want to select just one word? No problem!

1. Position the mouse pointer directly over the word.
2. Double-click the left mouse button. It's that easy!

If you want to de-select text that you've selected, just click anywhere outside the selected text.

Selecting a group of words

Selecting a group of words isn't hard either.

1. Position the mouse pointer before the first word in the passage to be selected.
2. Click the left mouse button and hold it down.

3. Now, while holding the left mouse button down, drag the mouse over the text.
4. Release the mouse button only when you've selected all the text you want.

Selecting longer sentences

The text you'd like to select extends over multiple lines? For example, it begins on the upper right side of the screen but ends far below on the left?

1. Start by positioning the mouse at the beginning of the first sentence. Hold the left mouse button down, and don't release it until you've selected the entire area you want.
2. Now drag the mouse directly downwards. This way you select an entire line at a time. Don't let go of the mouse button!
3. Have you selected too much text? Don't let go of the mouse button yet! Just drag backwards to unselect, until you've reached the word that ends your selection.

If you accidentally moved some of your text around while you were selecting it, the click the ***Undo*** button on the Quick Access toolbar. 

Selecting line by line

You can even highlight entire lines of text at a swoop.

1. Position the mouse in the margin to the left of the first line you'd like to select. The mouse pointer will look like a hollow arrow facing to the right.
2. Click the left mouse button and don't let go. The first line will be selected immediately.
3. Now, holding the left mouse button down, drag the mouse down the side of the page.

Let the mouse button go when you've highlighted as much text as you want to select.

Quick tip: you can select a single line by clicking once in the left margin; select the whole paragraph by clicking twice on the left margin; and select the entire document by clicking three times in the left margin.

Selecting precisely what you want

Is clicking and dragging the mouse too clumsy for you? Then here's another approach:

1. Click wherever you'd like the selection to begin. (Just click, don't keep on holding the mouse button down.)
2. Press the [SHIFT] key and hold it down.

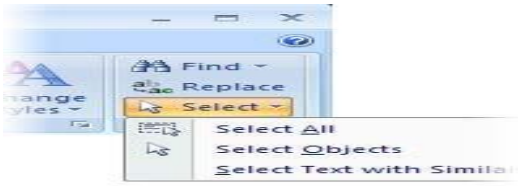
3. While still holding the [SHIFT] key down, click wherever you'd like the selection to end. Release the [SHIFT] key. All the text between these two points is selected!

Selecting with the keyboard

By the way, you don't have to use the mouse to select text. You can also use the cursor (arrow) keys on the keyboard. Try holding down the [SHIFT] key and using the arrow keys to expand your selection.

Selecting everything

You'd like to select the whole document at once? That's easy! At the right end of the ***Home*** ribbon, click the down arrow next to the word ***Select***, and then click ***Select All***.



3.1.7. Deleting and adding text

Deleting individual characters

In Word there are two ways that you can delete your text, character by character, step by step.

- ✓ You've already met the [BACKSPACE] key; use it to delete characters to the left of the cursor.
- ✓ There's also a key that deletes characters ahead of the cursor. It's the [DEL] (delete) key. Go ahead and try it!

I've come across people who first use the right arrow key so that they can then delete with the [BACKSPACE] key - and the other way around. This stupid habit will cost you an extra key press each time you erase a character. If you erase 100 characters a day, then that could add up to 20,000 unnecessary key presses in a year!

Removing larger blocks of text

You'd like to remove several sentences at once? And you're going to do this by pressing the [BACKSPACE] key until you've erased everything? I'd like to know where you find so much time! Instead, I'd advise you to select the text that you want to remove, and then press the [DEL] key. It's really that easy!

Adding text

One of the best things about word processing is that it's so easy to add something to your text.

1. Click the point where you'd like to add to your text.
2. Type the new text.
3. The line breaks will automatically adjust themselves to accommodate the addition to your text.

If the line breaks don't adjust themselves, then you may have pressed [ENTER] instead of using.

Word's automatic line breaks. Display the non-printing characters and delete any unnecessary ¶'s.

1.3.8. Using the clipboard

Cutting, copying, and pasting are some of the most practical features of a word processor.

Cutting and pasting

You'd like to move some text from one place to another in your document? It couldn't be easier!

Here's how it's done:

1. Select the relevant text.
2. Click the ***Cut*** button on the Home ribbon – its icon is a pair of scissors. 
3. Whoops! Where did the selected text go? It's been moved to the *Clipboard*, which is an (invisible) storage area.
4. Place the cursor at the point where you'd like to add the text.
5. Now click the ***Paste*** button – its icon is a picture of a clipboard. 
6. If necessary, add an extra space at the end of the pasted text.

Copying instead of cutting

So how does copying work? It's very similar! Select your text, and then click ***Copy*** 
(the icon shows two sheets of paper) instead of Cut.

When you copy, the selected text remains in its original position in the document, and a copy of it is placed on the clipboard. You can paste the copied text anywhere else in your document (or in another document).

Text that has been cut or copied to the clipboard can be inserted as many times as you want to. Only when you cut or copy again will the contents of the clipboard be erased.

Some keyboard shortcuts

There are also some easy-to-remember key combinations to cut, copy and paste! Just hold down the first key [CTRL] while you type the second one.

[CTRL] + [X] : Cut

[CTRL]+[C]: Copy

[CTRL] + [V] : Paste

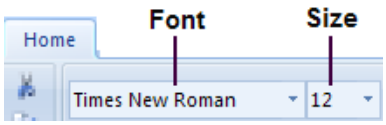
3.1.9. Character formatting

Word provides an amazing range of tools to help you create professional-looking documents! Characteristics that affect the appearance of one or more characters are called character formats.

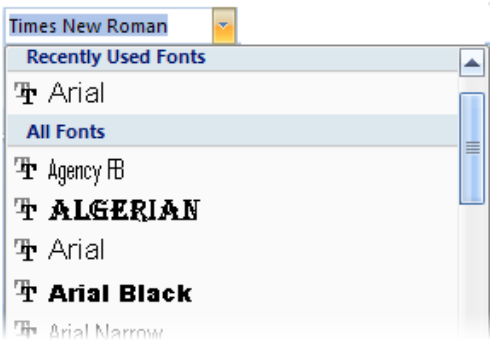
Changing the font

The style of typeface that you use is called the *font*, and there are literally hundreds to choose from! To change your font:

1. First, select the relevant text. This can be anything from a single character to the entire document.
2. Find the ***Font*** field on the Home ribbon.



3. Click the drop-down arrow next to the ***Font*** field.
4. You'll see a list with countless font choices. Scroll through the list until you've found the font you want to use. As you move the mouse over a particular font, your document will show what that font would look like – this is called *Live Preview*.



5. Select the font you want by clicking its name.

Changing the font size

You can change the *size* of the font to suit your needs:

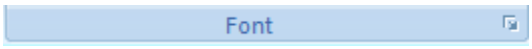
1. Once again, first select the relevant text.
2. Find the ***Point Size*** field on the Home ribbon, and click the drop-down arrow next to it.
3. On the list, find the font size that suits you and click it.

You can also specify your own font size. Just click in the ***Point Size*** field and type in the size that you'd like, then press [ENTER]. The size must be between 1 and 1638, and can include "half sizes" such as 12.5.

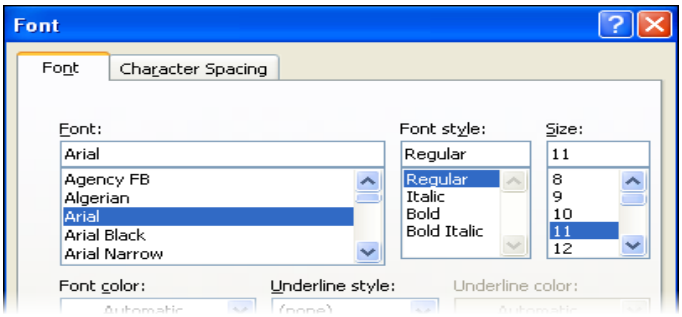
Changing the default font

The *default font* is what Word uses every time you start a new document. By changing this, you can ensure that all new documents will use your choice of font and point size!

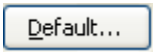
1. Find the ***Font*** category label on the Home ribbon, and click the arrow on its right.



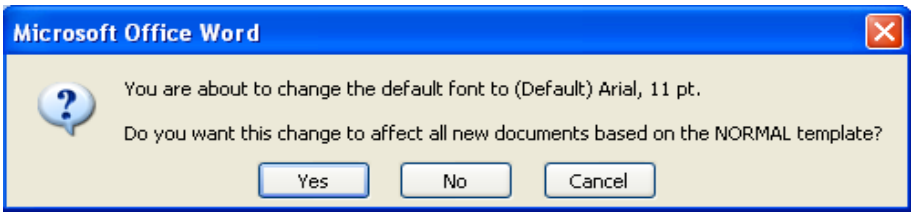
2. The Font dialog box will appear.



3. Select the font and size that you'd like to use as your default. Leave the style as Regular.
4. When you're happy with your selection, be courageous and click the ***Default*** button.



5. Word will inform you that you're about to change the default font, which will update the NORMAL template. Go ahead and click ***Yes***.



Bold, italic, and underline

Would you like your text to be bold, italic or underlined? It's very easy! As usual, you start by selecting the text that you want to format, since otherwise Word won't know where the new formatting should be applied.

1. Select the relevant portion of your text.
2. Click the appropriate character formatting button on the Home ribbon.

 for **Bold**

 for *Italic*

 for <u>Underline</u>

The arrow next to the underline button offers you a choice of underlining styles.

3. To turn a character format off, click the same button again.

You can select multiple formatting characteristics at the same time, for example by clicking Bold and then Italic.

Different colors

Colors can really make life worth living! And Word gives you the ability to make your texts as colorful as you wish! The general rule applies here too: first select your text, then act:

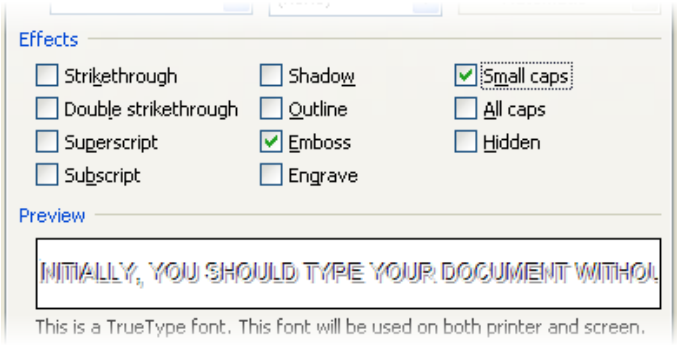
1. Find the Font Color button on the Home ribbon, and click the drop-down arrow. 
2. You'll see a palette containing all the text colours available to you.
3. Choose the text colour that you'd like by clicking on it.

The complete selection

But wait – there's more! Would you like your text to appear in small caps? Do you have a thing for shadowed text? You can access the complete set of options through the front window.

1. Select the required text.

2. Click the arrow to the right of the Font category label on the Home ribbon - or even simpler, click the right mouse button and select ***Font***. The Font window will be displayed.
3. Use the drop-down arrows to select colour or underlining options.
4. Check any effects that you want to apply, like Shadow or Small Caps. The ***Preview*** field let's you see what your choices will look like.



5. Confirm your settings with ***OK*** when you've finished making your selection.

Paragraph formatting

Paragraph formatting applies to a complete paragraph - that is, all the text between two occurrences of [ENTER]. And you don't even need to select the text first, unless you want to format more than one paragraph. Just position your cursor anywhere inside the paragraph that you want to format. It's as simple as that!

Right, left, or in the middle? Please arrange!

By default, paragraphs are usually left-aligned: the left margin is straight, but the right margin is jagged (like in this manual). Word provides you with a number of other options though. Just position your cursor anywhere in the paragraph, and click one of the text alignment buttons on the Home ribbon. 

 Align left: text is aligned at the left margin but jagged on the right.

 Center: text is centred within each line, with jagged margins on both left and right.

 Align right: Text is aligned at the right margin but jagged on the left.

 Justify: text is aligned at both the left and right margins (Word does this by adjusting the amount of space between words).

Using bullets

Here's how you can create a nifty bulleted list!

1. First, type the points that you want to bullet, one under another. Make sure you create them as individual paragraphs by pressing [ENTER] after typing each point.
2. Select the paragraphs that you'd like to bullet.
3. Click the ***Bullets*** button in the Paragraph section of the Home ribbon.

4. Look! The selected paragraphs have been formatted as bullet points.

The drop-down arrow on the right of the Bullets button allows you to choose from different bullet styles.

Creating a numbered list

In much the same way, you can create a neatly numbered list. Instead of clicking the  Bullets button, you should click the ***Numbering*** button just next to it.

The best thing about Word numbering is that the numbers adjust themselves automatically when you edit the text! To end a bulleted or numbered list, just press [ENTER] twice.

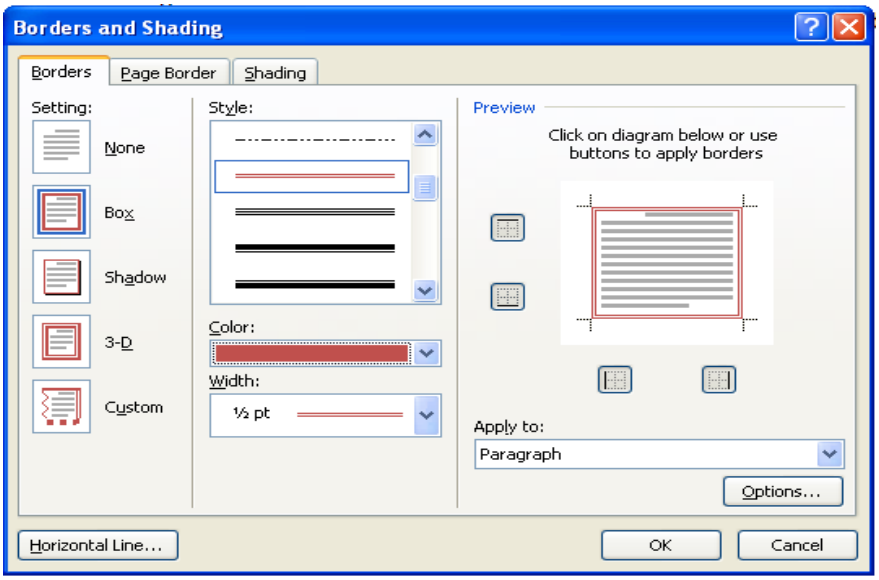
Borders and shading

You want to place a border around an entire paragraph? That's no problem either!

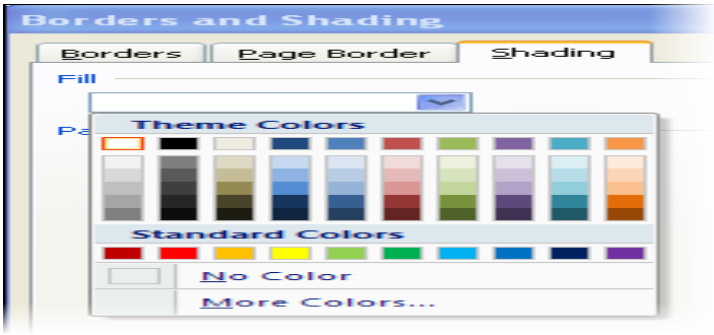
1. Place the cursor anywhere in the paragraph that you'd like to frame.
2. Click the ***Outside Borders*** button in the Paragraph section of the Home ribbon. (Note: if the Outside Border button doesn't show a "frame" icon, then  click the drop-down arrow to select it.)

For more complex borders and shading, select the ***Borders and Shading*** option at the bottom of the Outside Borders drop-down list. This will open the Borders and Shading dialogue box. Effects can be applied to the whole paragraph, or to selected words.

- ✓ Using the ***Borders*** tab, you can select a border setting, style, colour and width. The ***Apply To*** field lets you specify whether this should be applied to the whole paragraph or to selected text. Click ***OK*** to see the effect. (And then ***Undo*** if you don't like it!)



- ✓ Using the ***Shading*** tab, you can select a background colour and/or pattern. The ***Apply To*** field lets you specify whether this should be applied to the whole paragraph or to selected text. Click ***OK*** to see the effect.



Working with indents

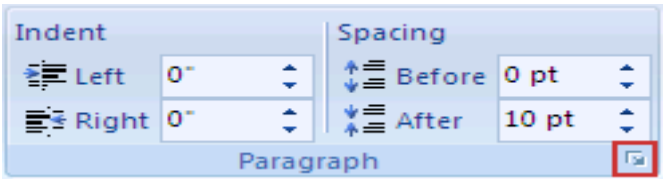
If you are working with a long document, you might want to consider setting off certain sections of text by using indents. Indents allow you to set text within a paragraph at different margins.

There are 4 different types of indents:

✓	First Line:	Use this option to move the first line of your paragraph to the right
✓	Hanging:	Use this option to control the left margin of every line in your paragraph except the first one
✓	Left:	Use this option to move the left margin of your paragraph to the right.
✓	Right:	Use this option to move the right margin of your paragraph to the left

First Line Indent

1. Click in front of the line that you want to indent.
2. On the **Page Layout** tab, click **Paragraph**, and then **Indents and Spacing**
3. In the Special list under Indentation, click First line, and then in the By box, set the amount of space that you want the first line to be indented.



Hanging Indent

1. Select the paragraph in which you want to indent all but the first line of the paragraph
2. On the **Page Layout** tab, click **Paragraph**, and then **Indents and Spacing**
3. In the Special list under Indentation, click Hanging, and then in the By box, set the amount of space that you want for the hanging indent.

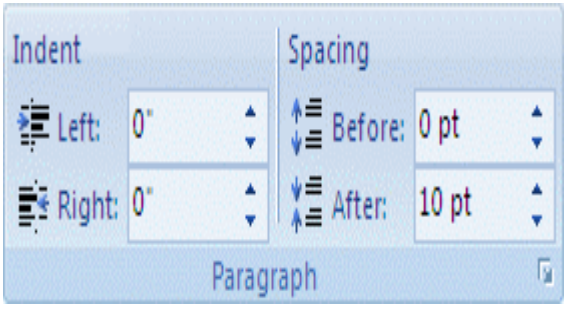
Setting left and right indents

1. Select the paragraph that you want to change.
2. On the **Page Layout** tab, click **Paragraph**, and then **Indents and Spacing**
3. Click the arrows next to Indent Left / Right to increase / decrease the left / right indentation of the paragraph.

Working with line spacing

Change the spacing before and after selected paragraphs. By default, paragraphs are followed by a blank line, and headings have extra space above them.

1. Select the paragraph before or after which you want to change the spacing.
2. On the **Page Layout** tab, in **Paragraph**, click arrow next to **Spacing** Before or Spacing After and enter the amount of space required.



Line spacing options

✓	**Single**	Default option - sets line spacing to one line
✓	**1.5 lines**	This option is one-and-one-half times that of single line
✓	**Double**	This option is twice that of single line spacing.
✓	**At least**	This option sets at minimum amount of space between lines
✓	**Exactly**	This option sets fixed line spacing, expressed in points.
✓	**Multiple**	Sets the line spacing to accommodate multiple lines

Change the line spacing for paragraphs

1. Select the paragraphs for which you want to change the line spacing.
2. On the **Home** tab, in **Paragraph**, click **Line Spacing**
3. Click on **Line Spacing Options**, and select options you want under **Spacing**.

Using tabs

Use tabs to align text in your documents. It's great for aligning columns of text! By default, Word has tab stops sert every 0.5" on the ruler.

Tab stop types:

There are five types of tab stops available which do the following:

✓	Left-aligned	Text flows to the right
✓	Centered	The text centers on this position as you type
✓	Right-alighned	Text flows to the left
✓	Decimal-aligned	Text aligns on the decimal point when using
✓	Bar	Inserts a vertical line at tab stop

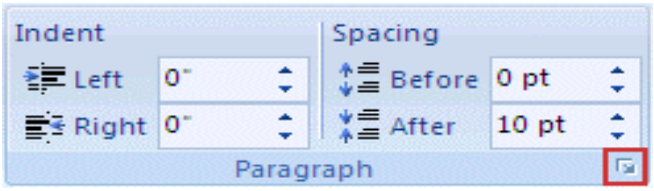
Setting tabs using the ruler

This is the easiest way to set tabs!

If you can't see the ruler, click **View Ruler** at the top of the vertical scroll bar. Click anywhere on the ruler, and you will have set a tab stop.

Setting custom tabs

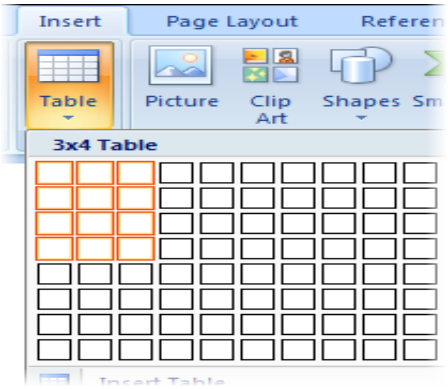
1. On the **Page Layout tab**, click **Paragraph**.
2. In **Paragraph**, click **Tabs**.



3.1.10. Arranging text with tables

If you need to include structured text in your document, then using a table is the easiest way to make sure that it will remain neatly formatted, even when you edit it.

Creating a table



It's really easy to create a table. Here's what you need to do:

3. Click at the point in your document where you'd like to add a table.
4. Click on the ***Insert*** ribbon tab.
5. Click on the ***Table*** button just below the Insert tab.
6. A blank table grid will appear.
7. Position the mouse pointer in the top left square of the table grid. Click the left button, and hold it down while dragging the mouse down and to the right. This is how you specify the number of columns and rows you'd like in your table.
8. Release the left mouse button, and the framework of your table is included in the document.

After you create a table, the Design ribbon will be displayed giving you a choice of standard table styles. Or use the ***Borders*** and ***Shading*** buttons to design your own!

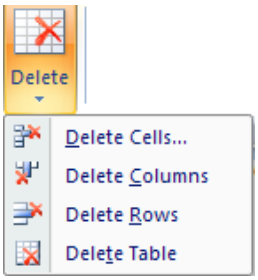
Adding text to your table

You want to fill the table in? Nothing could be easier!

1. After you've created the table, the cursor will be blinking in the first cell. You can begin typing here.
2. To move on to the next cell, just press the [TAB] key.
3. When you want to move to the next line, just press [TAB] again. Don't press [ENTER] – that will create a new line inside the current cell.

What if you've reached the end of the table and you need another row? Pressing the [TAB] key will automatically add it.

Deleting rows and columns

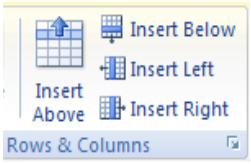


You'd like to delete a row? Or a column? Here's how:

1. Position the cursor in the row or column that you want to get rid of.
2. Click on the ***Layout*** ribbon tab.
3. Click on the ***Delete*** button, and a drop-down menu will appear.
4. Select an option to delete cells, columns, rows, or even the entire table.

Adding rows and columns

You need to have the ***Layout*** ribbon visible for this too.



1. Position the cursor in the row (column) next to which you want add another row (column).
2. Click on one of the ***Rows & Columns*** options (located on the right of the Delete button). The new row or column will be included in your table.

3.1.11. Adding ClipArt to documents

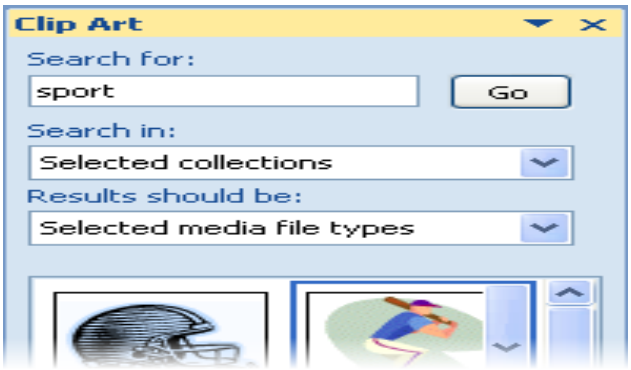
You can add pizzazz to your documents with ClipArt, the ready-made pictures that come with Word!

Adding ClipArt graphics

Here's what you need to do to add ClipArt graphics to your document:

1. Click at the point in your document where you'd like to add a ClipArt graphic.
2. Click on the ***Insert*** ribbon tab.

3. Click on the ***ClipArt*** button.
4. A ClipArt pane will open on the right of your document.



5. Type a descriptive term in the ***Search For*** field, for example sport. Then click ***Go*** or press [ENTER].
6. The ClipArt Gallery will show you all the available graphics related to this theme.
7. Clicking on a picture will insert it in your document.

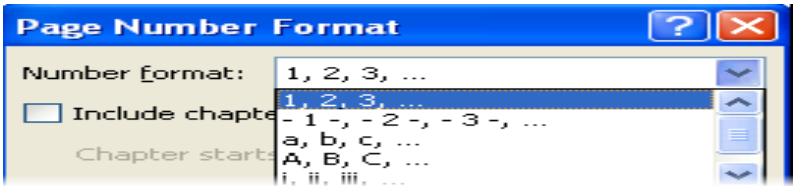
Controlling Page Layout

You'd like to add page numbers, or perhaps a header or footer, to your document? That's not hard! (Headers and footers are elements of a document that are repeated on every page.)

3.1.12. Adding page numbers

Let's start by adding page numbers to your document:

1. Select the ***Insert*** ribbon tab, and click on the ***Page Number*** button.
2. From the drop-down menu, select the position you'd like for your page numbers, and one of the built-in formats. It's as simple as that!
3. Page numbers will be inserted into your document, and the Design ribbon will replace the Insert ribbon above the document window.
4. If you want to adjust the page numbering style or sequence then click the ***Page Number*** button again, and select ***Format Page Numbers***.



5. Finally, click ***Close Header & Footer*** to return to your document text.

Adding a header

Headers and footers aren't automatically included in a new document. But that's easily remedied! Let's start with a header:

1. On the ***Insert*** ribbon, click the ***Header*** button.
2. The Header menu will drop down, offering you a choice of built-in header layouts. Select a layout by clicking on it.
3. The *header area* will appear above your document text (which will be greyed out). The Design ribbon will replace the Insert ribbon above the document window.
4. You'll see a text placeholder in the header area. Click on it and then type the text that you want to appear in the header.
5. When you've finished creating your header, you can either
    - o click the ***Close Header and Footer*** button, or
    - o if you'd like to add a footer as well, then click the ***Footer*** button.

To edit an existing header, just double-click anywhere in the header area. To remove a header, click the ***Header*** button and then select ***Remove Header*** from the bottom of the drop-down menu.

Adding a footer

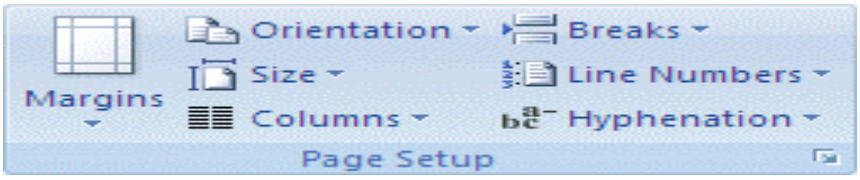
Adding, editing or removing a footer follows the same steps as described above for a header. Just click the ***Footer*** button instead of the Header button!

Setting page orientation

You can decide on the orientation of your page ie. portrait or landscape by selecting **Page Layout**, then **Orientation**.

3.1.13. Setting page margins

To change the margins of your document, select **Page Layout**, then **Margins**. The most common margin width to use is the **Normal** option. You are also welcome to select your own margin settings by selecting **Margins**, **Custom Margins.**



Inserting a manual page break

You will often need to insert a manual page break to add a blank page to your document. You do this by clicking on Insert and then selecting the Blank Page option.

Deleting a page break

1. Select **Print Layout**.
2. Click on the page break in **Print Layout** view and hit the **delete** key

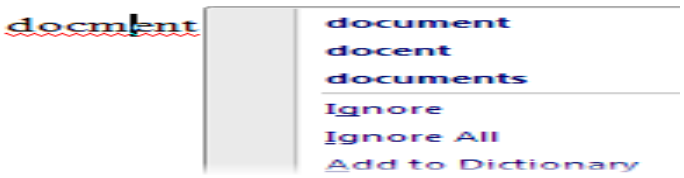
Spelling and grammar checking

Have you sometimes noticed a wavy red line appearing beneath your typing? This indicates a typo, or a word that Word doesn't recognise. Note that Word also regards a missing space after a comma or a period, or the doubling of a word (the the), as a mistake!

Proofing while you type

Now I'll show you how to use the nifty spell checker!

1. Mistype a word so that the wavy red line appears.
2. Click the right mouse button on the underlined word. A context-sensitive menu will open up.



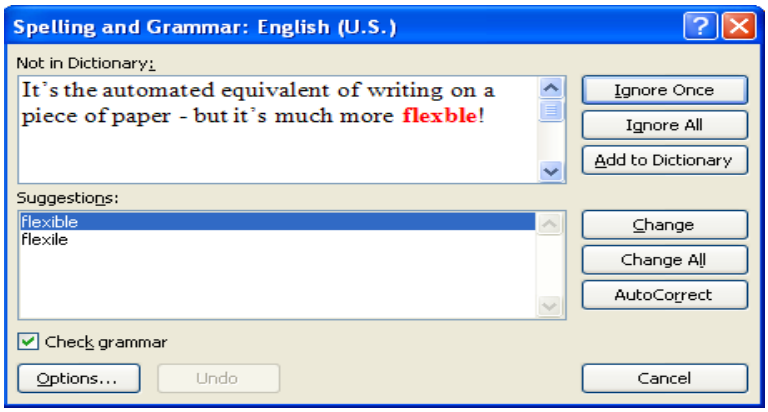
3. Click with the left mouse button on the correct suggestion, and the mistyped word will automatically be replaced.

3.1.14. Spell checking the entire document

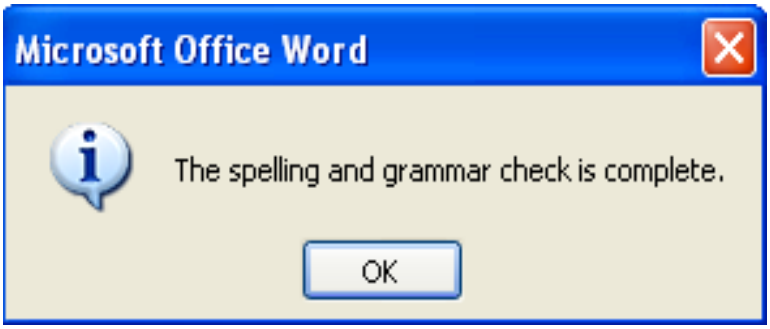
Maybe you'd rather get your thoughts down on paper without stopping to make corrections as you go? Word also has an option to spell check the entire document or selected passages of text.

1. Position the cursor at the point where you'd like to begin spell checking.
2. Click on the ***Review*** ribbon tab, and then on the ***Spelling & Grammar*** button. The *Spelling and Grammar* dialogue box will open.

3. The first spelling or grammar error will be highlighted and a list of suggestions provided.
4. Click the correct suggestion and then ***Change***, or click the ***Ignore Once*** button to skip over it.



5. Each subsequent problem will be highlighted in turn.
6. Press OK when the spelling and grammar check is complete.



If you want Word to proof grammar as well as spelling, then make sure that the Check Grammar option in the Spelling and Grammar dialog box is ticked.

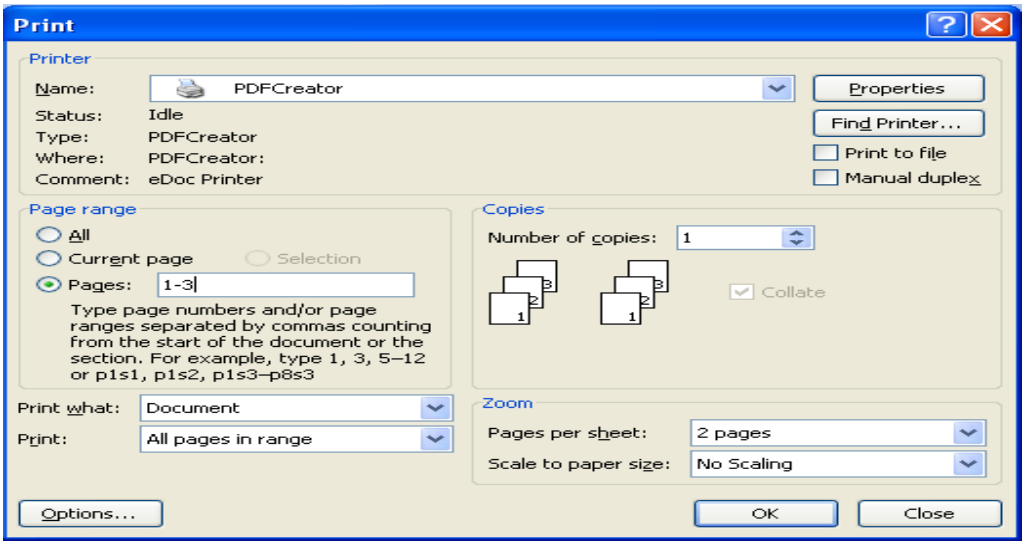
3.1.15. Printing a document

Now it's finally time to see your words on paper!

The Print dialog box

This is the approach that I recommend:

1. Click the Office button and select the ***Print*** command.
2. The Print dialog box will appear.

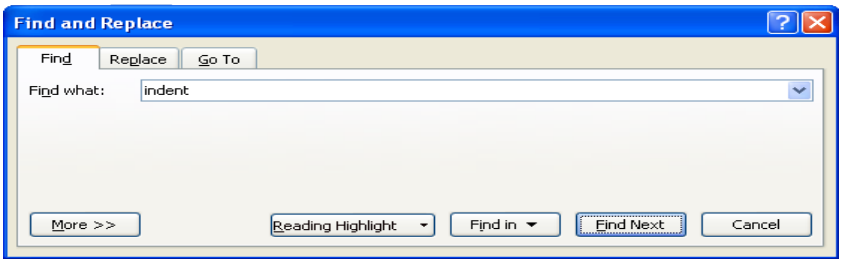


3. If you have more than one printer to choose from, they will be available in the *Printer* area. Click the drop-down arrow next to the ***Name*** field to select your preferred printer.
4. Would you like to print selected pages only? Find the *Page Range* area, and type the page numbers that you'd like printed in the ***Pages*** field.
5. If you'd like more than one copy of the document, then enter the required number of copies in the ***Number of Copies*** field.
6. If you'd like to print more than one page per sheet (*compressed printing*), then select the required number in the ***Pages per Sheet*** field.
7. Click ***OK*** when you're satisfied with your settings. The specified document pages will be sent to the printer.

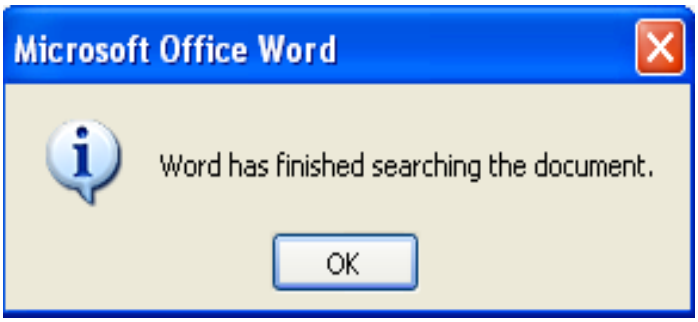
3.1.16. Searching for text

You're working on a long document, and looking for a particular item of text?

4. Click the ***Find*** button at the left end of the Home ribbon.
5. The ***Find and Replace*** dialog box will appear. Click the ***Find*** tab.
6. Type in the word or phrase you're searching for and click ***Find Next***.



7. Word will display and highlight the next occurrence of the specified word or phrase.
8. You can continue pressing ***Find Next*** to locate all occurrences of the specified word or phrase, or click ***Cancel*** to close the window.
9. Word will tell you when all occurrences of the word or phrase have been displayed.

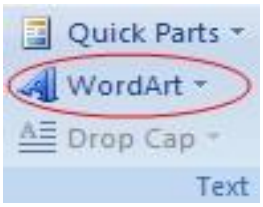


The ***Replace*** tab allows you to replace occurrences of one word or phrase with another.

3.1.17. Text effects with WordArt

How would you like to create cool text effects with shadows and 3D? Check out the WordArt functions!

1. Select the text to which you want to add WordArt effects.
2. Click the ***WordArt*** button on the Insert ribbon.
3. A selection of WordArt design options will appear.



4. Click on a design option to select it.
5. The Edit WordArt Text dialog box will allow you to change the font style and size. Click OK to accept the settings.

6. Your selected text will be transformed by the WordArt you have chosen!

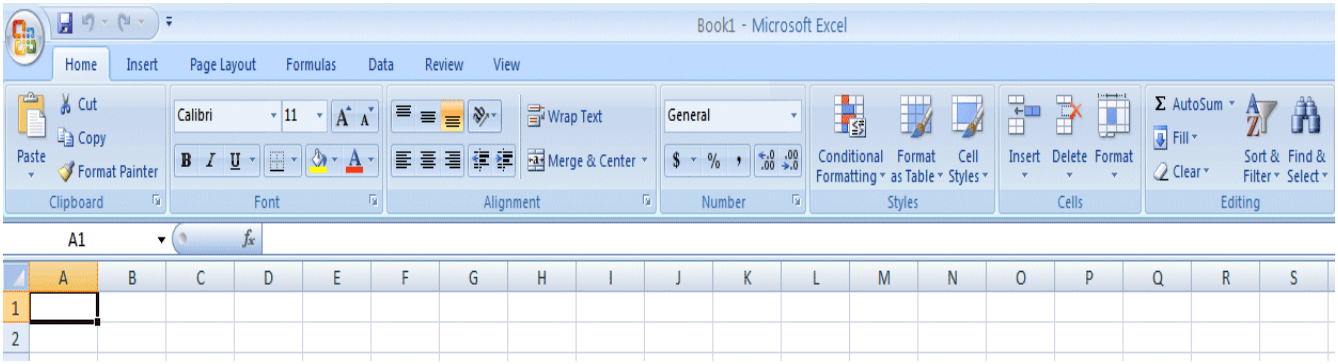
3.2. Spreadsheets

3.2.1. Creating an Excel 2007 (Spreadsheet)

In the following exercises you will **learn** some of the necessary steps to **create** a **spreadsheet** using **Microsoft Excel 2007**. You will learn not only how to type various items into the spreadsheet, but also how to copy columns, widen columns, fill columns, add, subtract, multiply, divide, do graphics and a variety of other "things."

To begin, **load** the spreadsheet by **quickly clicking twice** on the **Excel 2007 Windows Icon** in the **Windows Desktop**. If you **do not see** an **Excel Icon**, **click** the **Start Button** in the **lower left corner** of the screen, move the cursor up to **Programs**, then move to **Microsoft Office.** Move down to **Microsoft Excel 2007** and **click**.

A **spreadsheet** is a "**number manipulator**." To make the handling of numbers easier, **all spreadsheets** are organized into **rows** and **columns**. Your initial spreadsheet will look something like the one below:

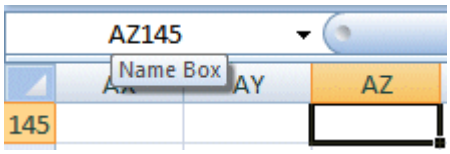


Notice that the "**main**" part of the spreadsheet is composed of **Rows (Labeled 1, 2, 3, 4**, etc.) and **Columns (Labeled A, B, C, D**, etc.). There are a lot of rows and columns in a spreadsheet. The "**intersection**" of **each row** and **column** is called a **cell**. In the image above the **cursor is on** the "**home**" **cell** – **A1**. **Notice Row 1 and Column A are "bold,"** and **colored "orange."** This **indicates** what is called the "**address** of the **cell**. **Notice right above cell A1**, that **A1** is **displayed** in a **small box** called the **Name Box**. Whenever you "click" on a cell the address of that cell will be shown in the Name Box.

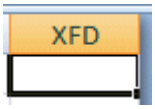
If you have used previous versions of Microsoft Excel you will quickly notice that the above image is very different from what you are used to seeing. In Excel 2007 you will now use Tabs, Ribbons and Groups, as well as special Tabs/Ribbons. These replace the Menu Bar and Buttons in older versions. For an overview of 2007 Office, please see the Introduction to Microsoft Office 2007 Tutorial. This short tutorial introduces you to the many enhancements in the 2007 Office Suite.

In this tutorial, whenever we indicate that you need to click the mouse, it will mean to click the left mouse button – unless we indicate that you should click the RIGHT mouse button. So, always "click left" unless we tell you otherwise.

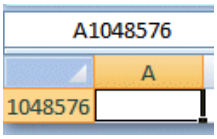
You can move around the spreadsheet/cells by **clicking** your mouse **on** various **cells**, or by using the **up, down, right and left arrow movement keys on the keyboard**. Or, you can move up and down by using the "**elevator**" bars on the **right** and **bottom** of the spreadsheet. Go ahead and **move around the spreadsheet**. **Hold down** the **down arrow key** on the **keyboard** for a few seconds – then **click**-on a **cell**. **Notice** how the **Name Box** always **tells** you "**where you are**." Now hold down the **right arrow key** on the keyboard for a few seconds. **Notice** how the **alphabet changes** from **single letters (A, B, C,. …. Z**) to **several letter combinations (AA, AB, AC**). There are **hundreds of columns** and **thousands of rows** in a spreadsheet. **Anytime** you desire to **return** to the **Home Cell (A1)** simply **click-in** the **Name Box** and **type-in A1**. Then **tap** the **Enter key** and you will **go** to cell **A1**. You can go to any cell by this method. Simply type-in a row and column, tap the Enter key, and you'll go to that cell.



If you want to go to the last column on the right, hold down the Ctrl key and tap the right arrow key.

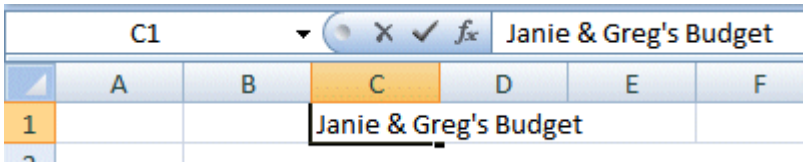


If you want to go to the last row at the bottom, hold down the Ctrl key and tap the down arrow key.



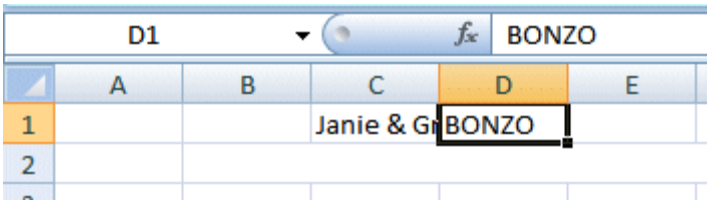
Now that you have the "feel" of how to move around the Excel spreadsheet, **go to** the **cells** as **indicated below** and **type-in** the following:

C1 (Your Name)'s Budget. It should **look similar** to **the image below**. **Do not tap Enter** when you finish.

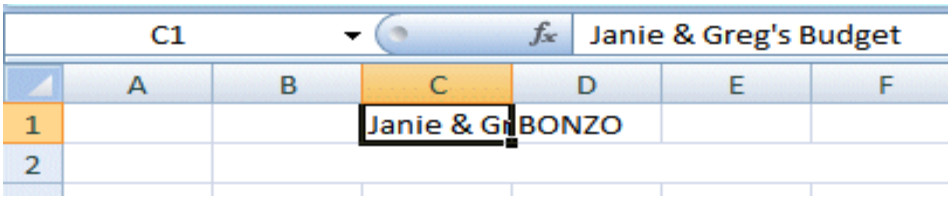


Look at cells **C1** and **D1**. Notice how your **entry has spilled over from C1 into D1**. Sometimes this is a problem, and sometimes it is not.

Tap the **Enter key** and then **click**-on cell **D1** and **type-in** the word **BONZO** and **tap** the **Enter** key**.**



Notice how **BONZO** now **COVERS** the **right part of your original entry**!! M**ove your cursor over** cell **C1** and **click-on it**. Look at the upper part of the spreadsheet, just above the cells where you typed BONZO. Your name and the word budget are still there! Bonzo only **COVERED** the **portion in cell D1**. **See the image and arrows below.**



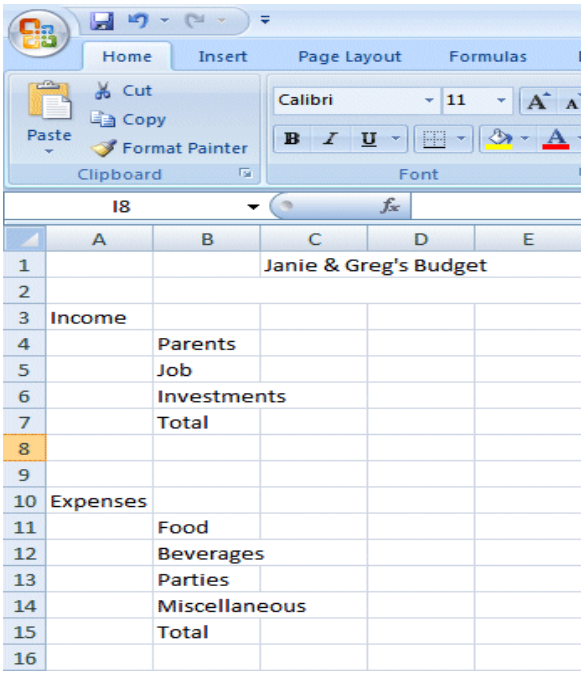
There are **several ways** to **take care** of this. For the moment **move back** to cell **D1** and **click**-on cell **D1**. **Tap** the **Delete** key (above the arrow movement keys on the **keyboard**). Notice that **Bonzo disappears** and your **entire entry reappears**. This is one way to expose the entry. We'll look at some others as we go along.

Now we'll continue entering text and data. We think that creating a simple personal budget would be a logical way to show you how a spreadsheet "works." **Move** to the **following cells** and **type-in** the **information indicated**. You can click-on each cell and then type-in the entries.

If you happen to **make a mistake** simply **retype the entries**. Later on we'll see how to

edit mistakes. Any time you want to replace something in a cell you can simply retype and the new entry and it will replace the old one.

Your **spreadsheet** should now **look similar to** the **image** on the **right**.



At this point you probably **noticed**, the words "**Investments**" and "**Miscellaneous**" **run over** the spaces given in the cells. Do not be concerned at this point. We'll soon fix this.

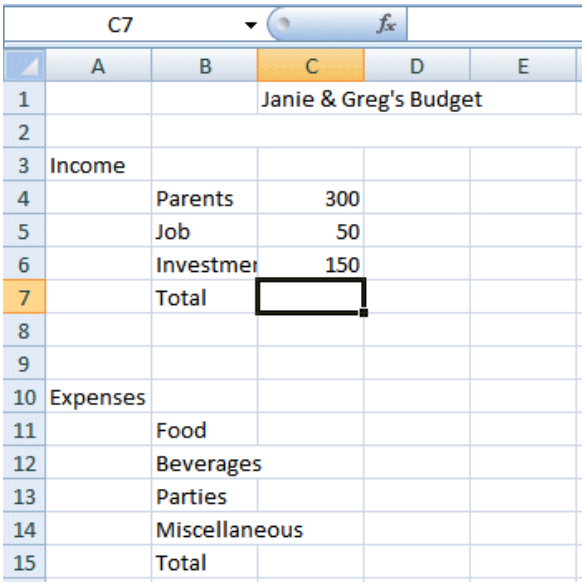
Now, **type** the **numbers** in the **cells indicated:**

C4 300

C5 50

C6 150

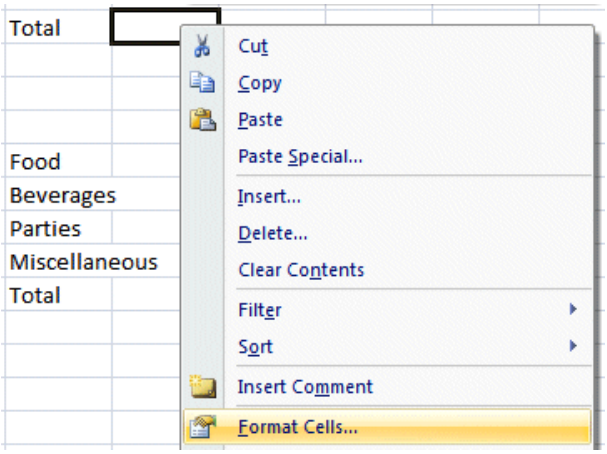
When you **type**-in the **150**, **tap Enter**.



Your **spreadsheet** should **look like** the image on the **right**.

Notice, when you enter text that the **words** line up on the **left** side of the cells. When you enter **numbers**, they line up on the **right** side. This is because we are using the United States (English) version of Excel. Other international versions will line up logically for their text and monetary forms.

We would like to **place an underline** at the **bottom of the three figures** so that we can **indicate** a **total below** – in cell **C7**. Point to cell **C7** (with the mouse). That's where we want the line -- **always move the cursor to the place where you want to insert a line**. With the Arrow on cell **C7** tap the **RIGHT mouse button**.

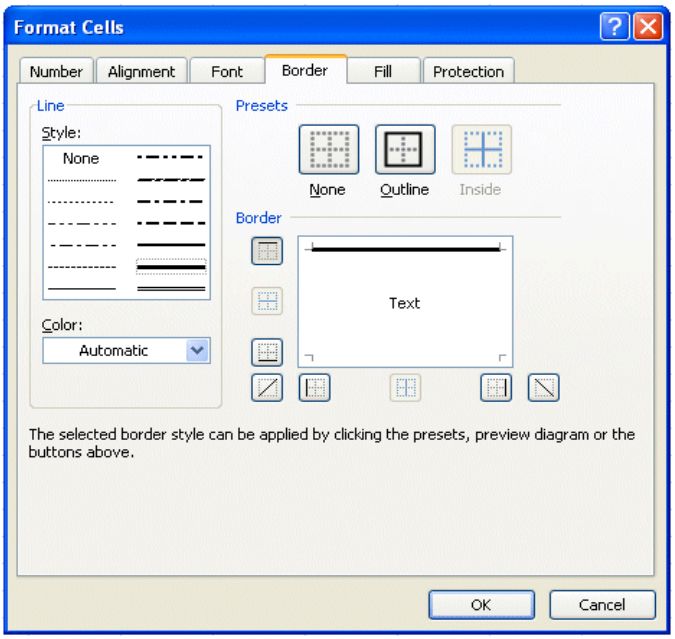


A sub-menu with a caption **Format Cells** appears.

The **RIGHT click** will "**always bring up**" a **menu** that is "**tailored**" to the "**place**" **where you click**. This will work in any Microsoft Windows product. You can always **tell "where" you click the right mouse** button for the **cursor arrow will always be in a corner of the menu that** appears – exactly where you clicked the right mouse button..

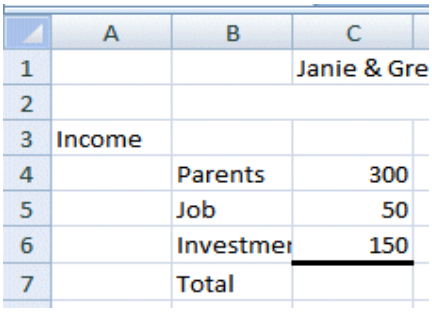
3.2.2. Select Format Cells.

When the Format Cells menu screen (below) **appears,** select the **Border Tab**.



Look at the **Line Style** box on the **right side** of the **menu screen**. There are several types of lines that you can choose. Point to the **thick single line** in the **Style Area (see arrow)** and **click** the **left** mouse button. A **box** will **go around the line**. Look at the area which says **Border.** Point to the **upper part of the Text box (see arrow)** and **click** the **left** mouse button. A **thick black line will appear** at the **top** of the **Text** box.

If the **thick line does not show-up at the top** of the **Text box**, **click-again** at the "top line area in the Text box" and the line will "disappear". Then click-on the thick, single line in the Line Style box again and repeat the previous instructions. If, somehow, you make a **mistake**, simply **click** "**on and off in the Text line boxes.**" You will notice that the lines appear and disappear. This is called a "toggle" in computer "talk." So, work at this until you get the line on the top of the cell. We have indicated that we want a single thick underline at the top of the cell C7. Point to **OK** and **click** the **left** mouse button.

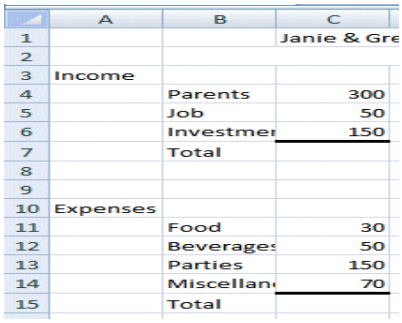


	A	B	C
1			Janie & Gre
2			
3	Income		
4		Parents	300
5		Job	50
6		Investmer	150
7		Total	

When you **return** to the **spreadsheet, click somewhere other than cell C7**. This is called "**clicking away**." You should now **see** a **line** at the **top** of cell **C7**. Sometimes the box highlighting a cell hides the lines. If you "messed-up", try again.

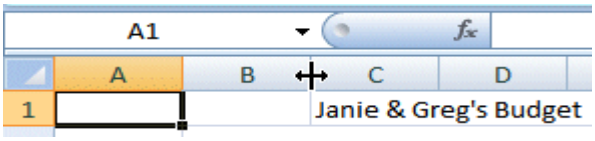
Now type in the numbers in the cells indicated.

C11 30
C12 50
C13 150
C14 70 (After you **type 70, tap** the **Enter key)**



	A	B	C
1			Janie & Gre
2			
3	Income		
4		Parents	300
5		Job	50
6		Investmer	150
7		Total	
8			
9			
10	Expenses		
11		Food	30
12		Beverages	50
13		Parties	150
14		Miscellan	70
15		Total	

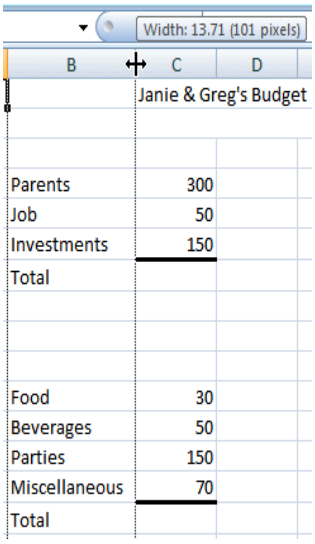
Now, **underline** the **top** of cell **C15** like you did cell **C7**.**Your spreadsheet should now look like the image on the right.**



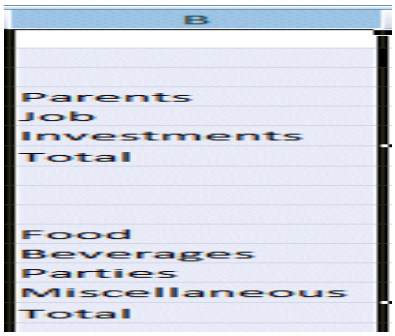
3.2.3. Formatting Column and Rows

Widening Columns

You probably **noticed**, as you typed in the numbers, **some** of the **words** were just **too wide** for the default **cell width** (Investments and Miscellaneous). Let's **widen column B** to take care of this. **Slowly move** the **mouse arrow** to the **right edge** of the **B** cell (**between the B and the C**). The cursor will turn into an **arrow pointing right and left with a small vertical line in the middle (see arrow below). Hold down** the **left mouse button** and **move (drag) the line to the right.**

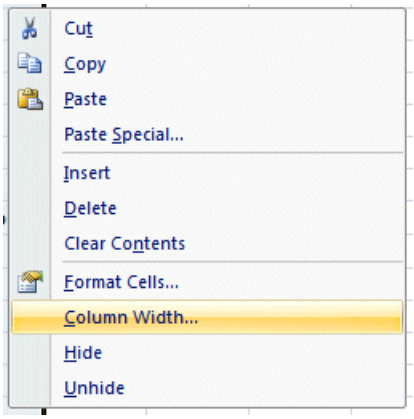


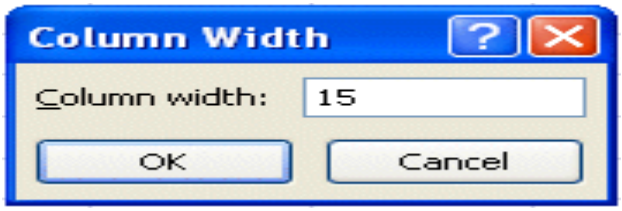
As soon as you **start to move (drag)** the **mouse,** a **dotted vertical line** will **go down the spreadsheet** and it will **move as you hold down the left button and drag the mouse to the right**. **Keep moving your mouse** to the right **until** you are **past** the **widest word -** and a bit more (for some space). Release the button. The column is widened. Notice, above the two headed arrow cursor, that as you hold down and drag, it indicates the current width of the column.



Here is **another way to widen a column**. Point to the **B at the top of column B** (in the **Gray** area) and **click** the **left** mouse button (The **cell** should turn **dark blue** and the **column light blue**.).

Now, **keeping** the **cursor** somewhere in the "**blue**" area, **click** the **RIGHT Mouse Button**. Notice that a **menu** with **Column Width…** appears. **Click**-on **Column Width…** A new Column Width menu appears. **Type** in **15** and **click**-on **OK**. This is another way to widen a column.

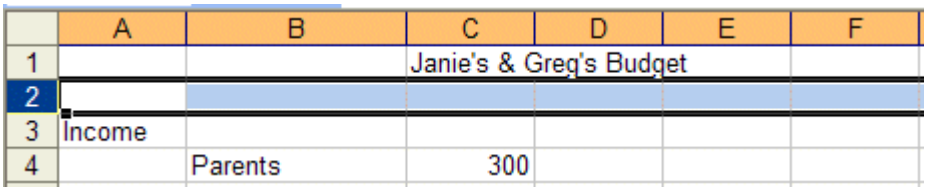




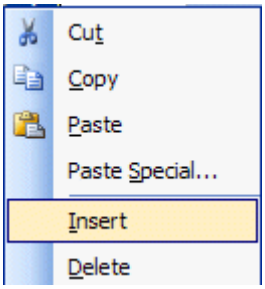
Inserting Rows

Oops... a **mistake** (on purpose). We **haven't left enough room** at the top of the spreadsheet **to insert** some budget **months**. So... move the cursor to the **gray 2** along the **left** edge (this is the second row) **so we can insert two new rows. Click** the **left** mouse button. You will notice that

the whole row goes **light blue and the 2 turn's dark blue. Make sure** the cursor **arrow** is either **on the 2** or **somewhere in the blue row**.



	A	B	C	D	E	F
1			Janie's & Greg's Budget			
2						
3	Income					
4		Parents	300			

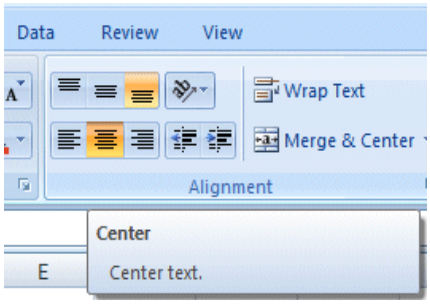


Click the **RIGHT** mouse button. A drop down menu will appear. Point to **Insert. Click** the left **button** on **Insert**. **Notice** how **one row** was **inserted** and how **everything below moved down**. Do this **again** to **insert another row**. Excel, and all spreadsheets, will remember where they moved your work and automatically adjust for these changes. **Income** should **now** be in **cell A5**.

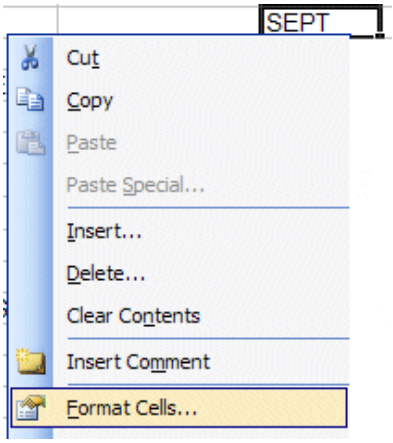
3.2.4. Aligning Cells

Now we'll type some more text. Go to cell **C3**

SEPT (Type-in SEPT and **tap** the **Enter** key**)**

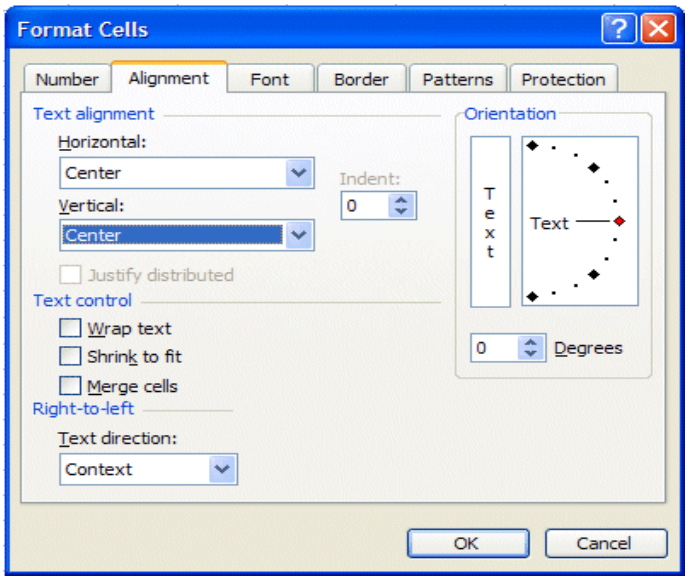


Notice how **SEPT** is **automatically left aligned**. Logically, since you are using Excel, the English version, the text is left aligned so that all of the text entries will line up nicely in the column cells. We would like to **center SEPT** in **cell C3**. **Click** on cell **C3** to "**mark**" the cell. One way to **center SEPT** is to simply **click-on** the **Center button** in the **button bar** at the **top of the screen**. **Make sure** that you are **ON cell C3,** then **click-**on the **center button** (**see image above right**). You'll notice that SEPT is now centered in cell C3.



Here is another way to **center** SEPT. **Click RIGHT** on cell **C3**. Then click on **Format Cells.**

When the **Format Cells Menu appears, click-on** the **– Alignment Tab** and then **click-on -- Horizontal - Center --Vertical - Center** -- then click **OK**. Try it.



This is how you can align words for neatness. You can also point to several cells you want aligned and do this. We'll try that next.

Now type the below text in the cells indicated.

D3 **OCT**

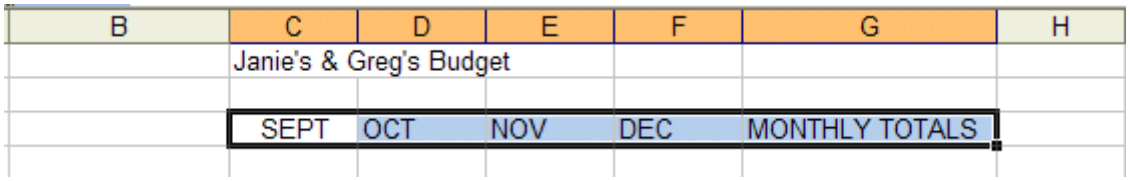
E3 **NOV**

F3 **DEC**

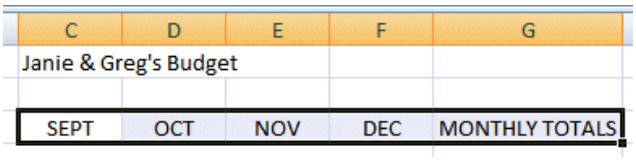
G3 **MONTHLY TOTALS** (**tap** the **Enter** key and then **widen the width** of **Column G**)

Next we'll highlight cells **C3 through G3**. To do this, point to **C3** and click the **Left**

mouse button. Then, **holding down** the left mouse button, **drag (move) the mouse to the right through G3 – when the cells are highlighted – take your finger off of the left mouse button**.



Then **point** to the **group of cells** and click the **RIGHT** mouse button to bring up the **Format Cells** menu. Click the **Alignment Tab** and choose **Center (vertical & horizontal)**. Then point to **OK** and **click** the **left** mouse button. All of the cells will be as centered. You could **also click** the **Center button** as you did before.



Don't forget to **widen Column G** and **MONTHLY TOTALS. You know what to do.** Move the cursor over the line between cells G and H and drag the line to the right to widen the G column, just like you did a few minutes ago.

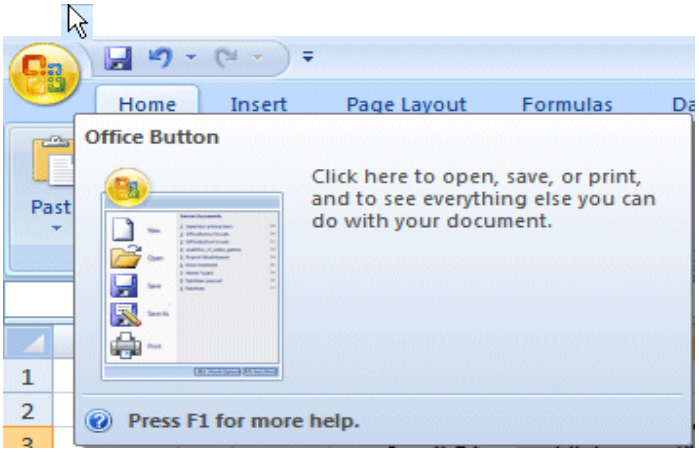
3.2.5. Saving Spreadsheets

We have done quite a bit of work so now is a good time to save your spreadsheet.

If you have used previous versions of Microsoft Office, **2007 Office will be quite different** - in many ways. You've already **noticed** the **Tabs** and **Ribbons**, and that there is **no File choice** in a **Menu Bar**. Many "selections" have **changed significantly** in 2007 Office. This is one of them.

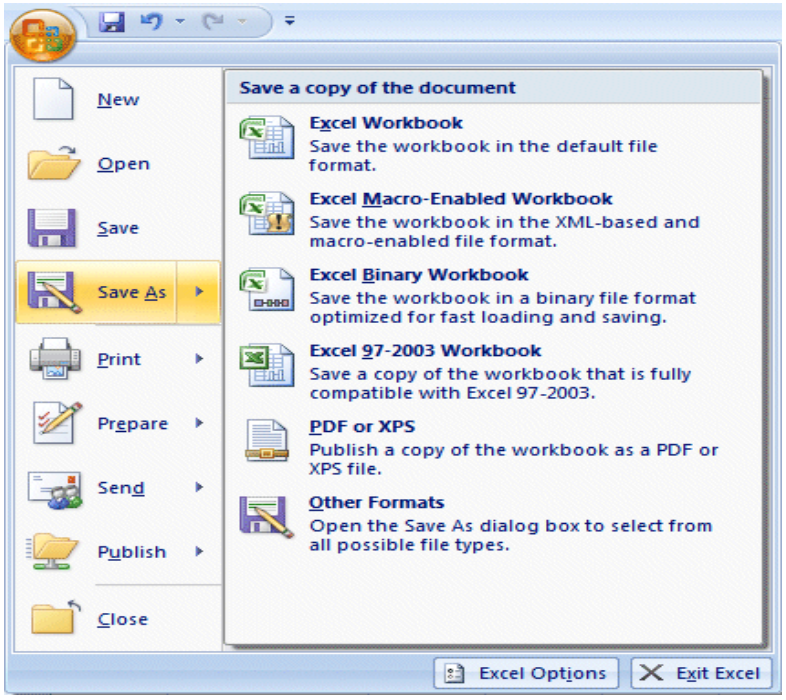
Microsoft Office Button

The **Microsoft Office Button** has **replaced File** in the Menu Bar. In the **upper left corner** of your Excel 2007 screen you will **see** a button similar to the **image** on the **right**. This is the **Microsoft Office Button**.



Click the **Microsoft Office Button**.

You will now see the Excel 2007 Microsoft Office Button selections.



First, **notice** that **many of the "old" File-Menu Bar choices** are **included in this menu** (they are all here – we'll show you.)

When we **move** our **cursor** over **Save As** an expanded menu of **Save choices** appear on the **right**.

Notice that You can save your spreadsheet in many different formats.

If you save as **Excel Workbook**, it will **save** your spreadsheet **in an .xlsx format**. This will save your spreadsheet in an **Extensible Markup Language (XLS) format**. This format **requires less storage** space and makes the **spreadsheet** more "**shareable**" with others. However, folks using

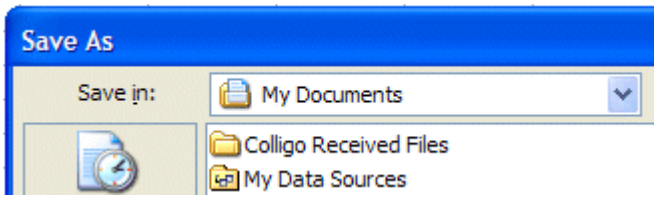
previous version may have a problem opening your spreadsheet (and may have to download a special program to assist them).

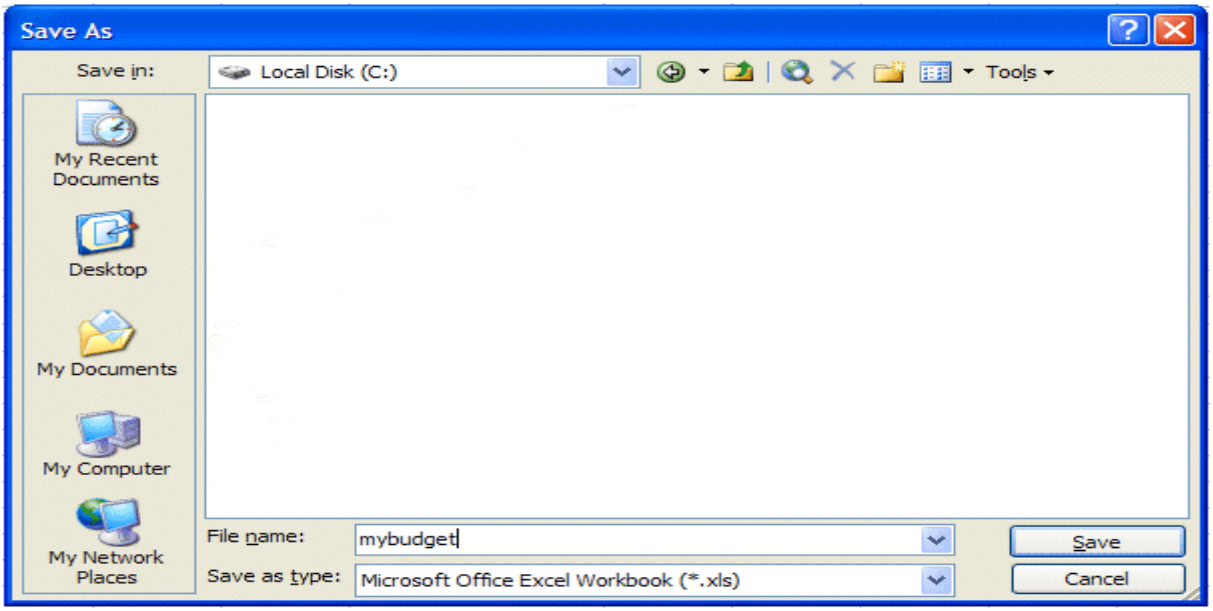
Many folks really like to save their files in **Portable Document Format (PDF)**. One of the neat **new features of 2007 Office** is the ability to save applications as PDF.

For this introductory Excel tutorial, we'd suggest that you save in the Excel 97-2003 Workbook format.

It's your choice, so you select the format you desire.

Notice in the **upper left corner** that there is a "**box**" to the **right** of **Save In:** with a **down pointing arrow** to the **right**. **Click-on** the **arrow**. This will **show** you **all** of the "**drives**" and "**folders**" where you may save your work**.**

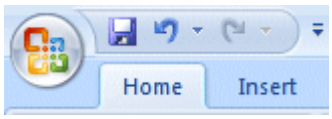




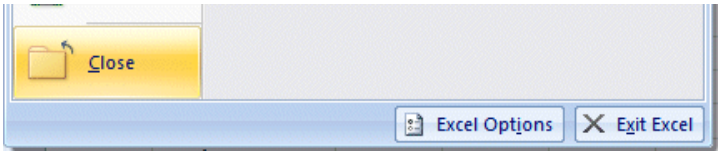
When you see the drop-down list in the Save in: area, choose the drive where you want to save your file. If you are going to use a diskette, **put a formatted 3 ½ diskette in the A Drive,** then **click**-on the **3 ½ Floppy (A):.** We are going to save our file on the Local Disk (C:) – our hard drive, so we chose that drive in the image above (see **top arrow**).

To the right of **File name:,** delete the information (which is in the box) and **type-in MYBUDGET** (see **lower left arrow above**). This is the name under which you are saving your file. (In the future you will choose logical names for your spreadsheets as you save them.) Now point to **Save** and **click** the **left** mouse button (see **lower right arrow above**).

3.2.6. Exiting Spreadsheets

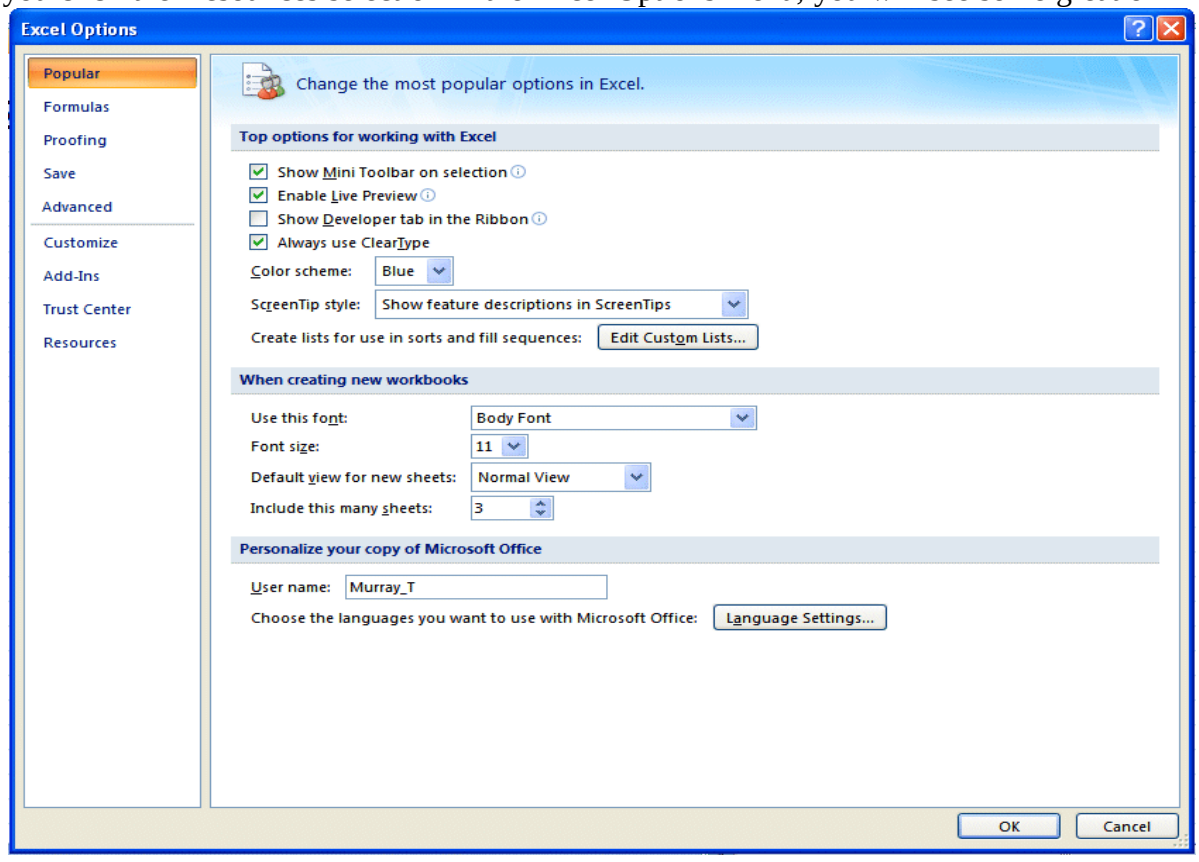


Anytime you need to leave your spreadsheet, click the **Microsoft Office Button** in the **upper left corner** of your **Excel screen,** then **click Exit Excel**. If you **have not saved** your spreadsheet, a reminder box will appear **asking you to do so**.



Notice the **Excel Options button** to the **left** of **Exit Excel**. Earlier, we indicated that all of the choices under File in the Menu Bar are still available using the Microsoft Office Button. **Click** the **Excel Options button.** The **Excel Options menu screen (below)** will **appear**. As you can see, all of the choices available under File in the menu bar are here – as well as many more.

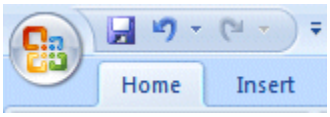
If you **click** the **Resources** selection in the Excel Options menu, you will see some great on-line



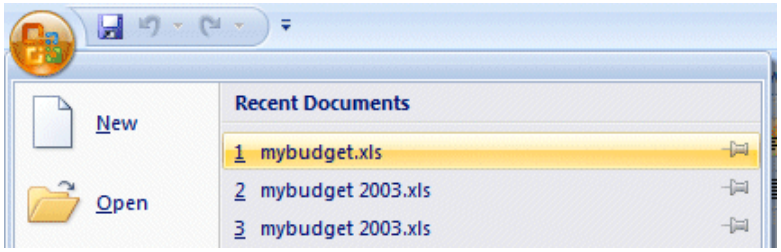
resources available to assist you with Excel.

3.2.7. Retrieving Spreadsheets

When you need to **return to a spreadsheet, open Excel**, as you did **on Page 1**. When Excel opens, **click** the **Microsoft Office Button** in the upper left corner of the Excel screen.

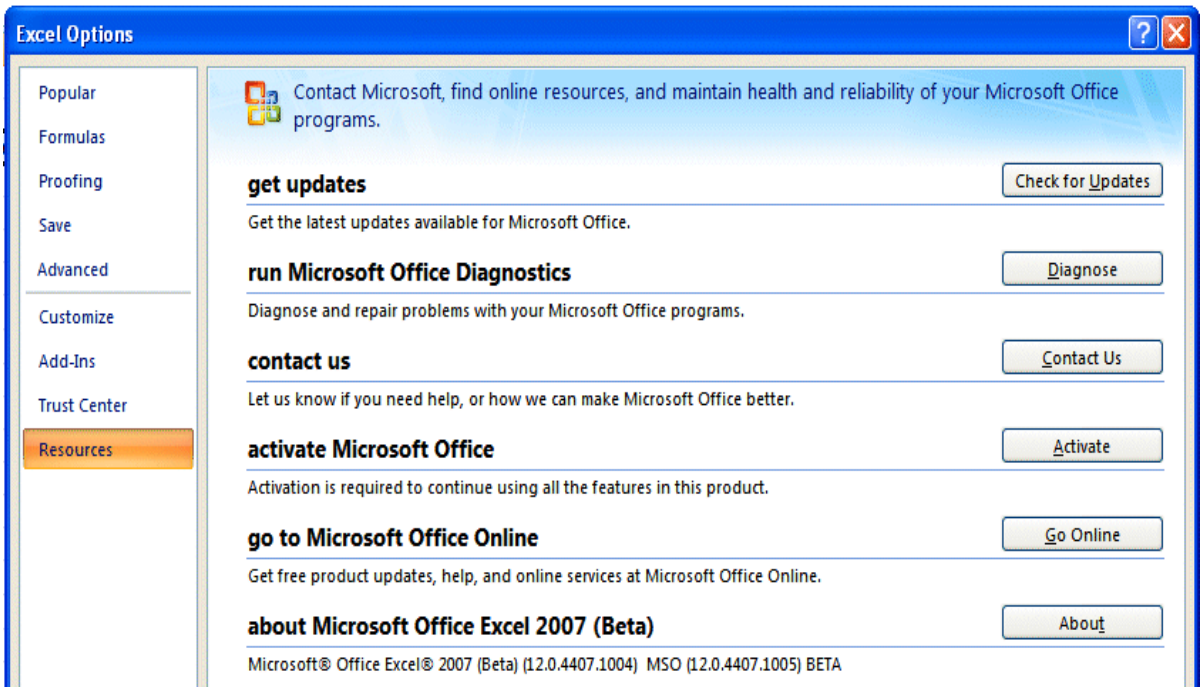


When you click the Microsoft Office Button you will **see**, on the **right** of the Microsoft Office Button **menu screen** your spreadsheets (**Recent Documents**). Your **MYBUDGET** should be on the list. **Click** on MYBUDGET and your spreadsheet will **open**.



If you **do not see your spreadsheet**, **click** the **Open** button and follow the steps you used to save your spreadsheet (on Pages 9-11) – except **choose Open**.

Adding Numbers



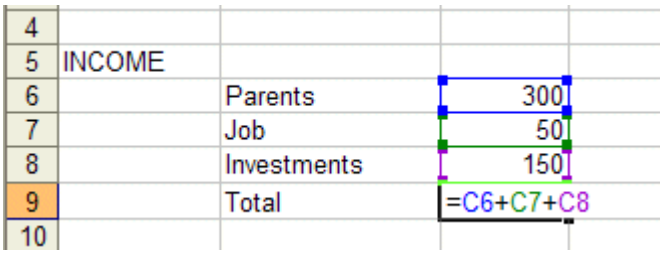
Next we want to learn how to add numbers. There are several ways to do this. Each method has its advantages and disadvantages.

3.2.8. TYPE-IN METHOD

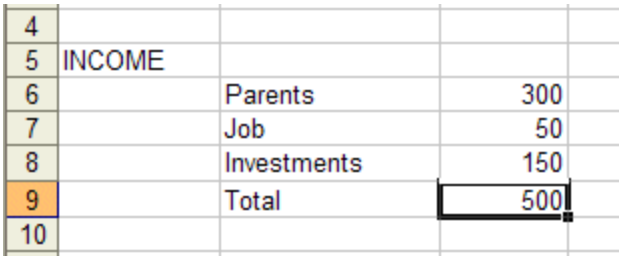
We want to **add** the three numbers in cells **C6, C7** and **C8**. To use this method **type-in** (**using the keys on the keyboard**) the following formula in cell **C9**:

= C6 + C7 + C8

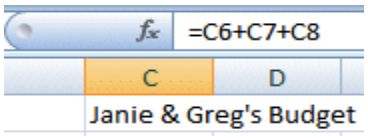
Your spreadsheet should look like the image to the right as you are typing in this equation. **Note**: you **don't have to use capital (upper case) letters** – we only did this because they are easier to "see" in the tutorial.



Now – **tap** the **Enter** key. Then, **click** on cell **C9 again**. The **total** of these cells will now **appear** in **C9**.



When you have completed typing your equation, you will **see** this **formula** in the area **below the menu bar**.



Change the number in cell **C6** to **500** (and **tap Enter**). See how the total **AUTOMATICALLY recalculates!!!**

THIS IS THE TRUE POWER OF THE SPEADSHEET !!!

Whenever a number is entered in a cell the entire spreadsheet will automatically recalculate.
Something happened here. **Notice**: **you typed** an (**equal sign**) = **before the cell location**. If you had typed in C6 + C7 + C8, Excel would have thought this entry was a **word (text)** and this entry would have shown as you typed it.

Try this if you want. Any time you "create" an error in Excel, you can simply re-type or edit the formula to correct the error.

The **Type in Method** is really easy if you have a **few numbers and can see their cell locations on the screen**. If you have a lot of cells in the formula, which are on several screens, this is not such a great method. The next method will work a lot better for numbers "all over the place.

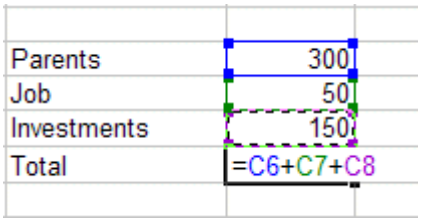
Subtraction, Multiplication, and Division

You can **type** a (**minus**) **- for subtraction**, (**asterisk**) *** for multiplication**, and (**slash**) **/ for division**. As you become more skilled we'll, build some effective formulas – using these features.

Point Method

Move to cell **C9** again and **click-on it**. We'll now add the numbers a second way. **Tap** the **Delete key** on the **keyboard** to **delete** the **current formula**.

First, **tap** the **=** and then **POINT (move)** the **cursor** over cell **C6** and **tap** the **LEFT mouse button on cell C6** (you will see a marquee box go around the cell). Now **tap** a **+** and **move** cursor to **C7**, **tap** the **left mouse button,** and **tap** another **+** and **move** the cursor to **C8 and tap** the **left mouse button** (**notice** how as you **" + and point "** the addition **formula is being built in cell C9**), now **tap Enter**. The **same formula** can be **built** using the **arrow movement keys on the keyboard** (except that you don't have to click each cell as the cell is marked - when you move with the arrow keys). **Notice**, as you are **entering the cell addresses**, that as you place another **+** in the **formula**, that the **cursor** "**returns" to cell C9**. Also **notice**, as you **point** to each **cell** that it is **highlighted** by a "**marquee box**." This "**tells**" you what **cell** you've **pointed to**. Pretty neat!



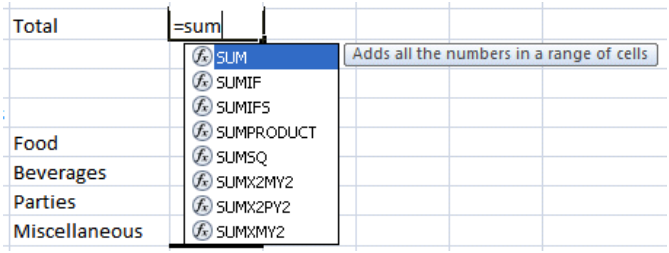
This **method is good** when you need to move to **numbers that are spread out all over the place**. Some people like it best and use it all the time -- it's your choice.

3.2.9. Function Method

Move again to **cell C9** and **Delete** the **formula** by **tapping** the **Delete key**.

Now **type in** the following: **=SUM(**

[This **tells Excel** that we are going to **sum** some **numbers** in a **RANGE** which will follow the =SUM(]



Notice – a new feature in Excel 2007: As you are typing SUM in cell C9 that a **pop-up menu appears** under the cell. What you see are mathematical functions. One of these is SUM. As you become more comfortable with numbers in Excel, you can select the functions you need without typing in the entire function. We'll get into this a bit more later.

There are **two ways** to put in this range:

Arrow Key and Anchor Method: With the **keyboard arrow keys, move the cursor to cell C6**. As you move you will notice that the **cell** where the cursor is located **appears after** the **=SUM(.** When you get to **C6** tap the **. (Period) Key.** This is called an **ANCHOR** and **holds one end** of the **RANGE** in place. You will notice that a **C6:C6 appears** in the **formula area under the button bar**. This is a **one cell range**. Now **move, with the arrow keys, to cell C8**. See how cells **C6, C7 and C8 are highlighted**. This indicates the **Range is C6:C8**. Excel assumes, logically,

that these are the numbers you want to add. Now **tap Enter**. The numbers still add, but now the formula reads =**SUM(C6:C8)** instead of =C6+C7+C8 like it did before.

Mouse Method: **Move** again to **cell C9**. **Delete** the **formula** in **cell C9** by **tapping** the **Delete** key. Type in **=SUM(** as you did before. **Point** to Cell **C6 –** with your **mouse cursor**. **Click and hold down the left mouse button** and **move/drag** the cursor down to Cell **C8** (Cells C6, C7 and C8 should be highlighted) – **take your finger off the left mouse button**. **Tap Enter**.

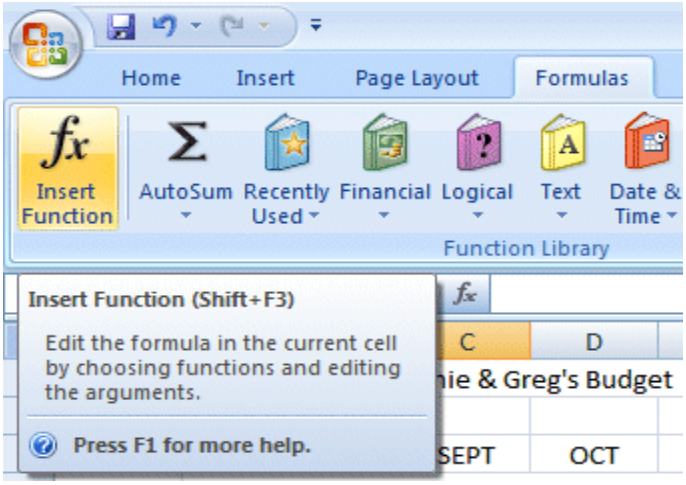
This **=SUM Function** is a **great way** to **add a lot of numbers, or a block/range of numbers**. By simply anchoring, and using page downs, or using the mouse, you can highlight lots and lots of numbers to add quickly. However, since it only sums you can't do subtraction, etc.

Point to cell **C9** again. **Tap** the **Delete** key to remove the formula currently in cell C9. **This is a really important DELETE**, since what we'll explain below won't work correctly if you do not delete the formula in cell C9.

Functions

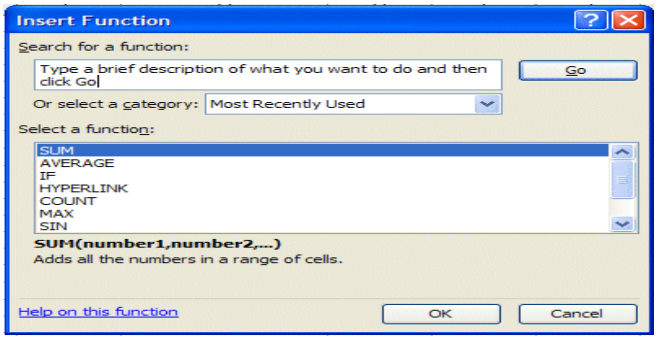
There are a number of **formulas built into Excel**, like **Sum**. These formulas are called **Functions**.

Another new feature of Excel 2007 – Tabs/Ribbons. Look at the **top** of your **Excel screen** and **click** on the **Formulas Tab**. The Formulas Ribbon will display.

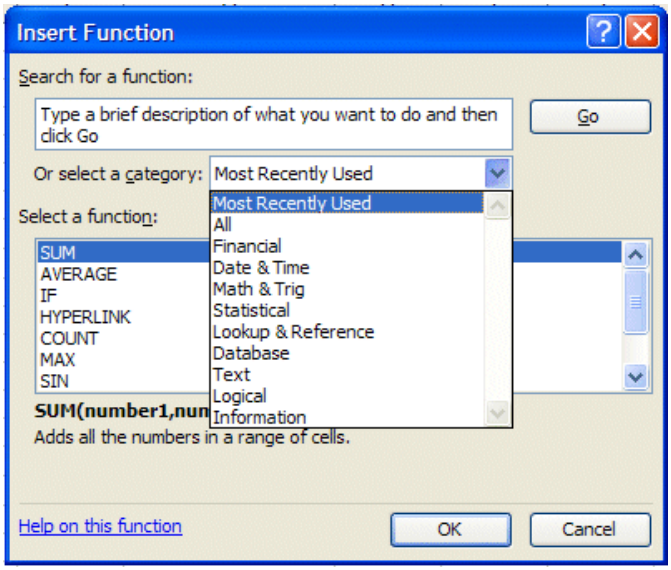


On the left of the **Formulas Tab/Ribbon** is an I**nsert Function button. Click** the **Insert Function button**.

The **Insert Function menu screen** will **appear** (**image at right**).



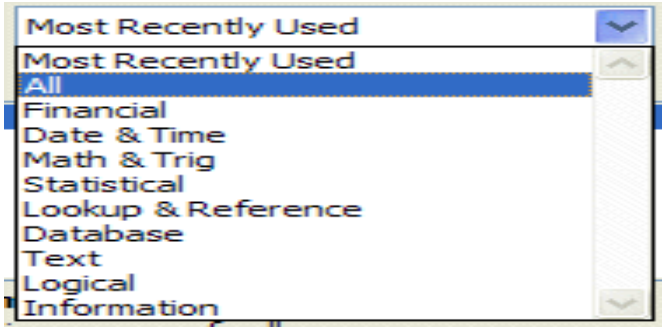
Let's work with the **Insert Function** menu screen. **Click** the **small down arrow** to the **right** of **Or select a category:** (see **arrow** at **left**).



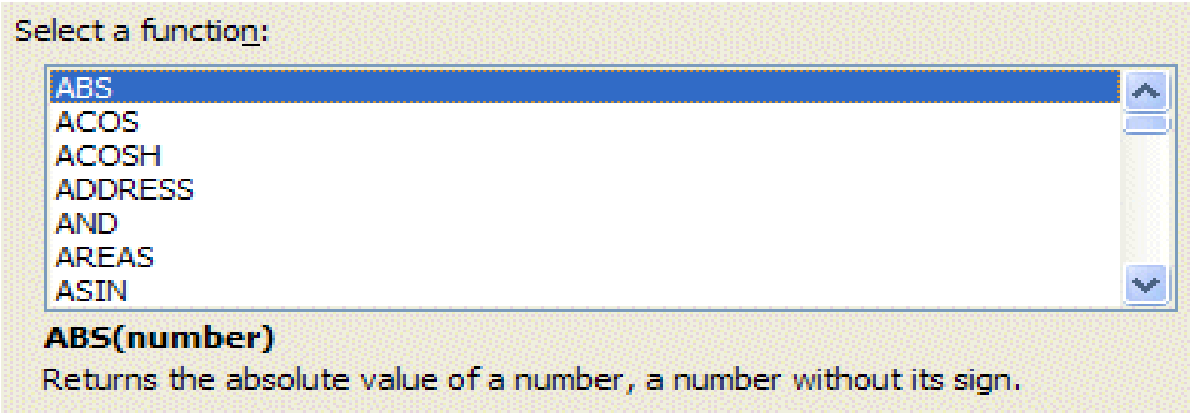
In the drop down menu that appears you can see that there are all kinds of formulas (functions) that come with Excel spreadsheet (e.g. statistical, mathematical, financial, etc.). Instead of having to go to math, financial, or statistical tables in a book, you can enter data from your spreadsheet into the formulas and receive answers.

This is a really great, timesaving feature. We'll now show you how to use the **Help features** of Excel 2007 to work with, and understand, these functions.

Click All in the **drop down menu**.

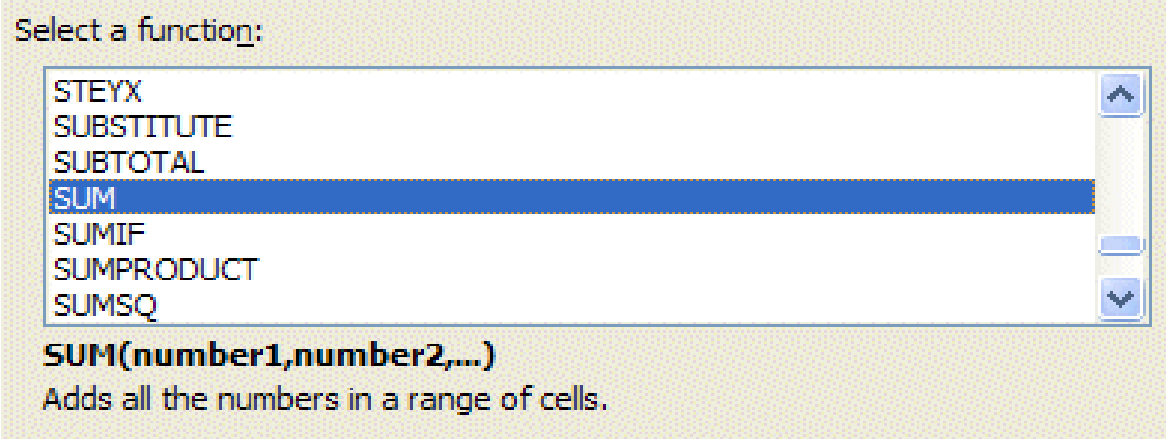


The **Select a function menu** will look like the **image below**.



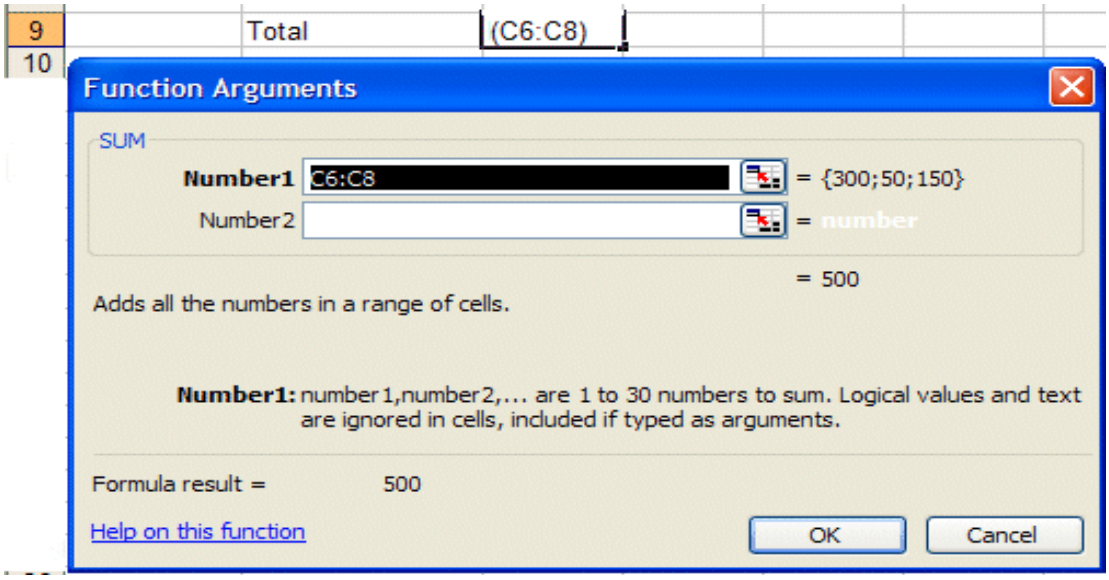
Look at all the functions (formulas)! We'll just go through how to use the addition formula (SUM) in this tutorial. If you need these formulas in the future, you'll know they're here.

Use the **elevator bar** on the **right** side of the Select a function menu screen to **move down** the list until you see **SUM**. **Click SUM**.



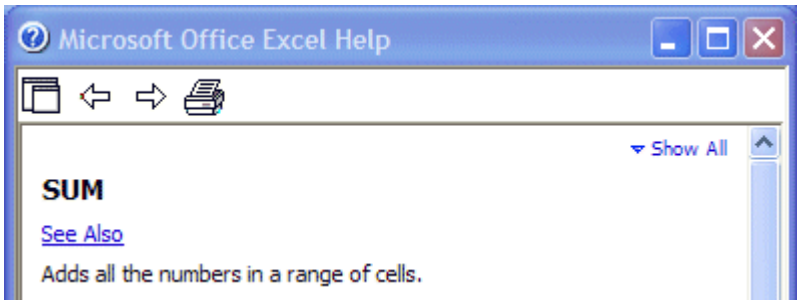
Then **click OK**.

Remember, you **clicked**-on Cell **C9** – which was "**empty**" because you deleted the formula in that cell.



When you **clicked OK**, the **Function Arguments** menu screen (**above**) **appeared**. If you **look** at the **top of the screen** in the **SUM area**, you'll **see** that Excel 2007 has "**guessed**" that you desire to **add** the **numbers above cell C9** – where you clicked in your spreadsheet. Smart Excel! **Notice** that it indicates that **cells C6:C8** will be added (sum cells C6 through C8 – the colon (:) means "through." It also indicates the numbers in cells C6, C7 and C8 and gives you the sum {300;50;150} = 500 (right arrow above).

But it's a little unclear how Excel did this. The **Help on this Excel Function** is excellent. So, to see how this SUM equation works, we'll go to Help. To do this, **click Help on this function** in the lower left corner of the screen (**see lower left arrow above**).

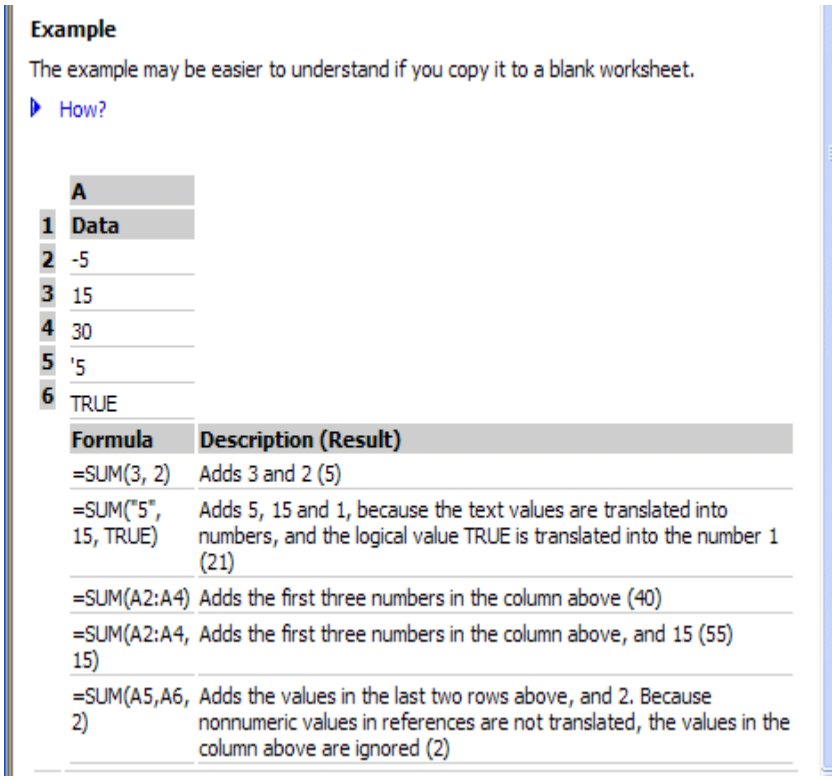


You will **see** a **Microsoft Office Excel Help window** appear (**similar** to the one **above**) that will show you **how to use** this **SUM function** (or any function).

One of the really **neat** things about these Help windows is that there are **examples** for each function. We **moved dow**n the **SUM help screen** using the **elevator bar** on the **right** of the **help screen**. The **bottom** of the screen **looks like** the **image below**. Spend a few minutes looking at the SUM Help window and notice all of the features.

The **bottom** of the **SUM help screen looks like** the **image** on the **left**. **Notice** that it gives you **examples** from **a small spreadsheet** that has data in cells A1 through A6. It uses these numbers in the examples at the bottom of the help screen.

When you have reviewed all of the help you care to see, **carefully click** the **X** at the **upper right corner** of the **Microsoft Office**



Example

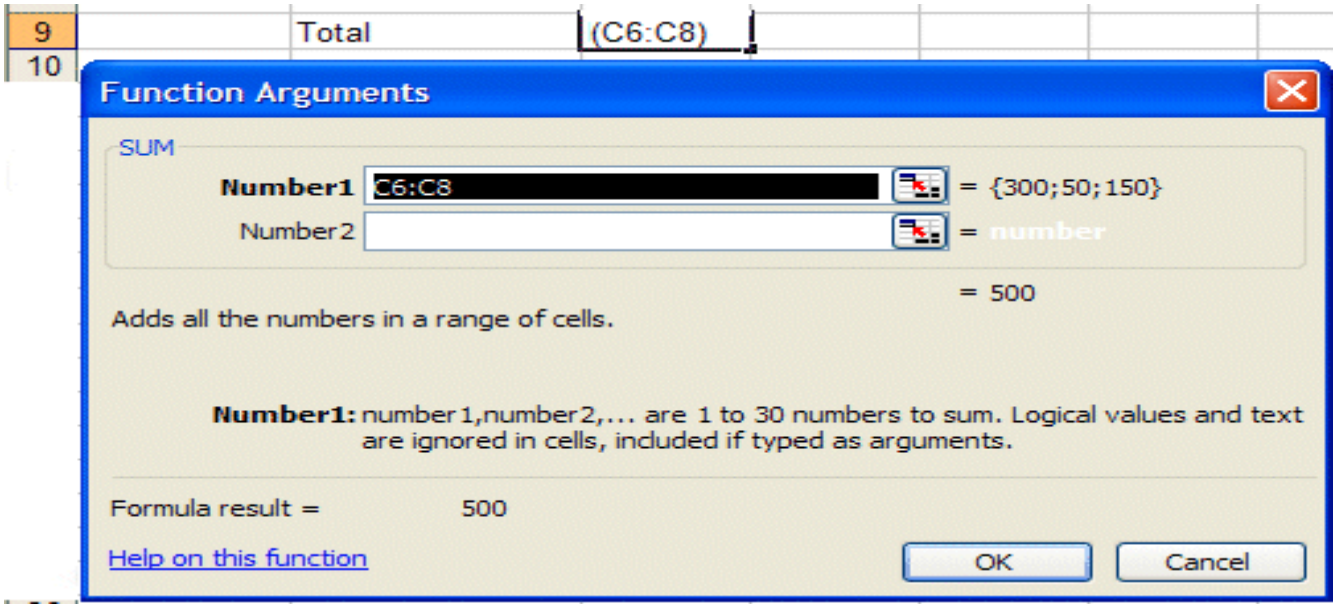
The example may be easier to understand if you copy it to a blank worksheet.

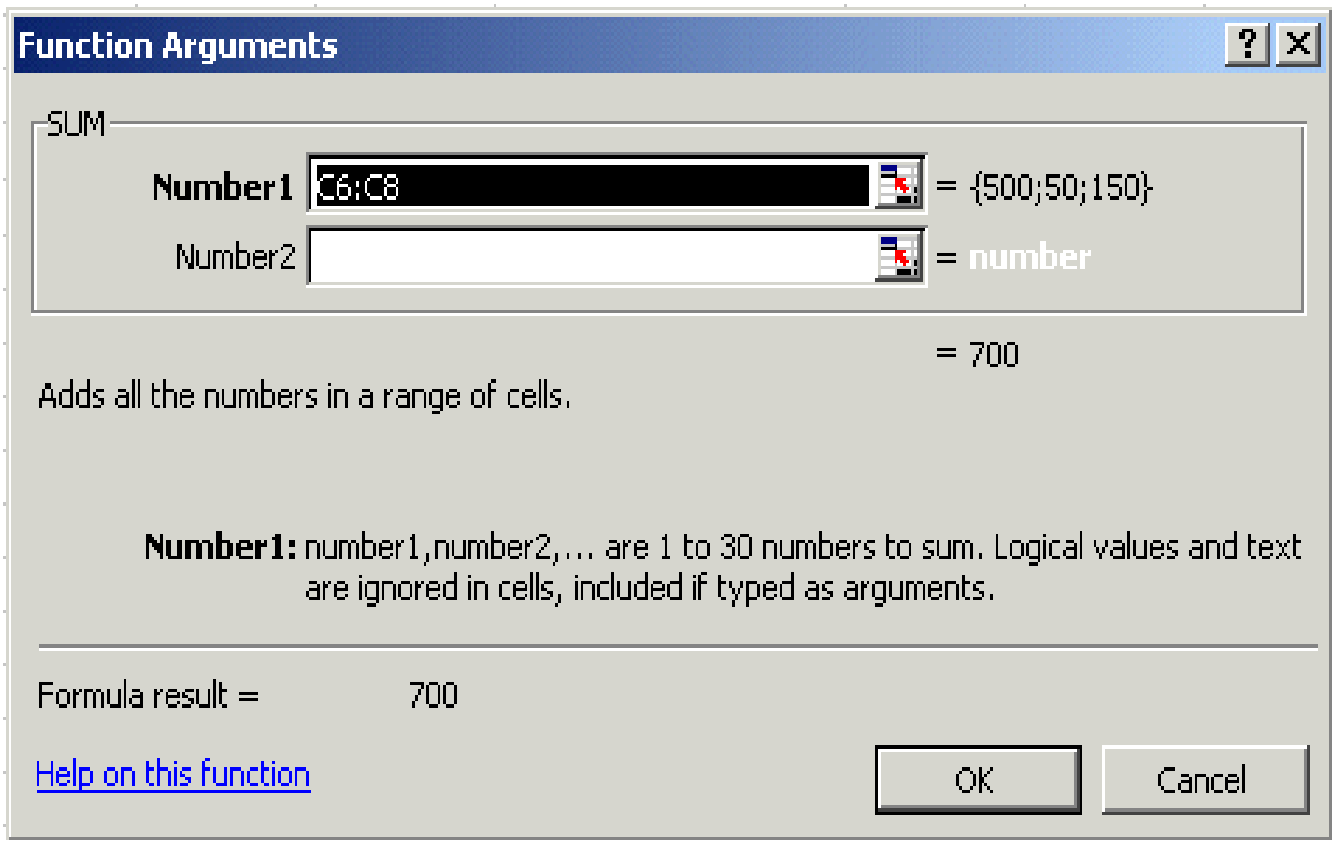
How?

	A
1	Data
2	-5
3	15
4	30
5	'5
6	TRUE

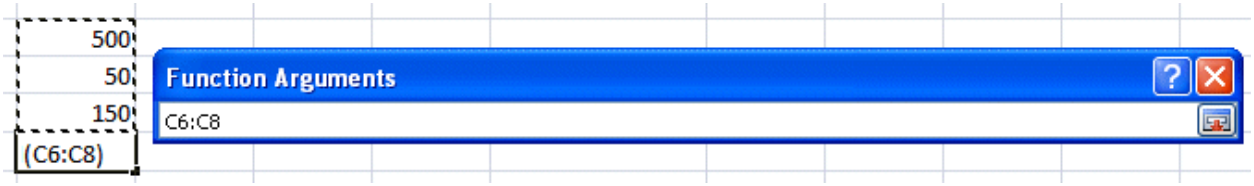
Formula	Description (Result)
=SUM(3, 2)	Adds 3 and 2 (5)
=SUM("5", 15, TRUE)	Adds 5, 15 and 1, because the text values are translated into numbers, and the logical value TRUE is translated into the number 1 (21)
=SUM(A2:A4)	Adds the first three numbers in the column above (40)
=SUM(A2:A4, 15)	Adds the first three numbers in the column above, and 15 (55)
=SUM(A5,A6, 2)	Adds the values in the last two rows above, and 2. Because nonnumeric values in references are not translated, the values in the column above are ignored (2)

The **Function Arguments** menu screen will still be on the screen.





As you can see, in the area to the right of **Number 1**, the "Wizard" has **"guessed"** that you want to add the numbers in the range **C6 to C8 - (C6:C8)**. Now that you are becoming skilled with Excel, we'll try something special. **Carefully**, **point** to some **"plain part,"** in the **gray area above. Click** and **hold down** the **left** mouse button, and **drag** the above **SUM box "away"** so that you can **see** your **numbers** in **C column cells**. When you have done this, release the mouse button. Now **click**-on the "**small box**" on the **right edge** of the **Number 1 area (see arrow above)**. It has a little **red arrow** in it.

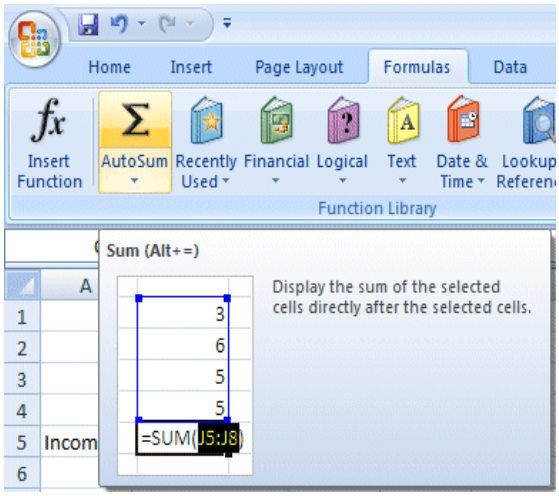


The **below Function Arguments** window will **appear**.

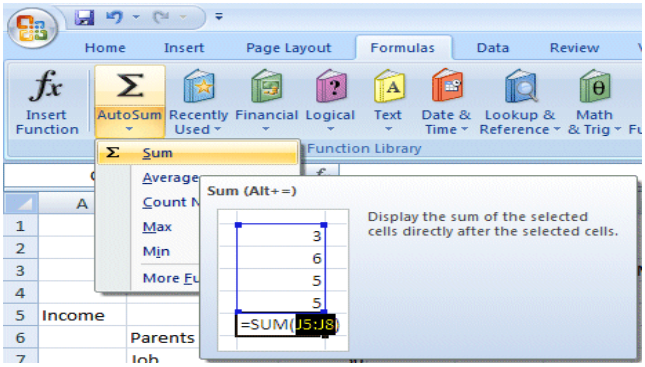
Highlight cells **C6 to C8** in the spreadsheet (**click-on C6, hold down the left mouse button, and drag until the three cells are highlighted**). A **"marquee"** will begin to **flash** around the cells, indicating they are highlighted (**left arrow above**). The **Function Arguments area will appear as above**. Now **click** the **small button** on the **right** of the **cell** (**see right arrow above**). The **numbers** will **show** in the area to the **right** of **Number 1**. **Click OK** at the **bottom of the Function Arguments menu screen**. You'll **see** that the **SUM formula [=SUM(C6:C8)] shows in the formula area at the top of the screen**. This is a really handy method to highlight a "group" of numbers you want to add.

AutoSum METHOD - ∑

Since we add numbers more than any other operation in spreadsheets, Excel spreadsheet has an additional feature - **Auto Sum**. Move to cell **C9 again** and tap the **Delete** key to **erase** your last formula.



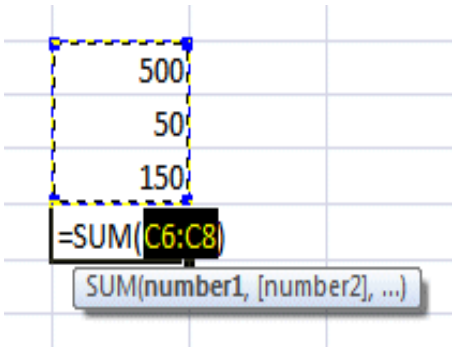
You should still be on the **Formulas Tab/Ribbon. Notice ∑ Auto Sum button. Click the AutoSum button.**



An image similar to the one on the left will appear.

Click ∑ Sum.

WOW !! Automatic addition!! Notice that the **cells**, you'd logically desire to add, have a **marquee around them** and that the **SUM** function is displayed in cell **C9**. You'll need to **confirm** that this is the **correct** formula. So, **tap** the **Enter key,** and the SUM function will now be set in cell **C9**. Any time you want to add using this method just click-on the cell where you desire the total to be and click ∑ **Sum.**



This would be a good time to save your work.

PERIODICALLY SAVE AND REPLACE YOUR WORK IN CASE YOU LOOSE POWER TO YOUR COMPUTER

Now move to cell C17 and add the total Expenses in cells C13 to C16 - using <u>each</u> of the four methods.

While you are **in** cell **C17**, go ahead and **place a line at the top of cell C17** using the format cells – border **method** that you learned on **Page 5.**

Subtraction

In cell **A19 type-in Net Income**. Next, **adjust the width of column A** (Page 6).

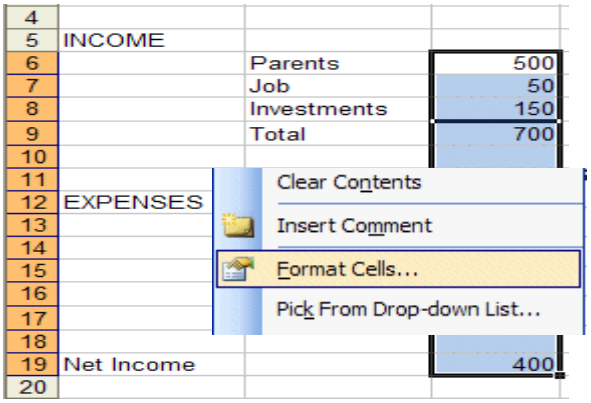
Click-on cell C19.

In cell **C19** we want to **subtract** (**-**) the amount in for **Expenses** in cell **C17** from the amount for **Income** in cell **C9**. This can be accomplished by using either the **Type-In** Method or **Point Method**. Go ahead and do this. Don't forget to **tap** the **Enter** key to **confirm** your **formula**.

The formula should look like =C9-C17

More Cell Formatting

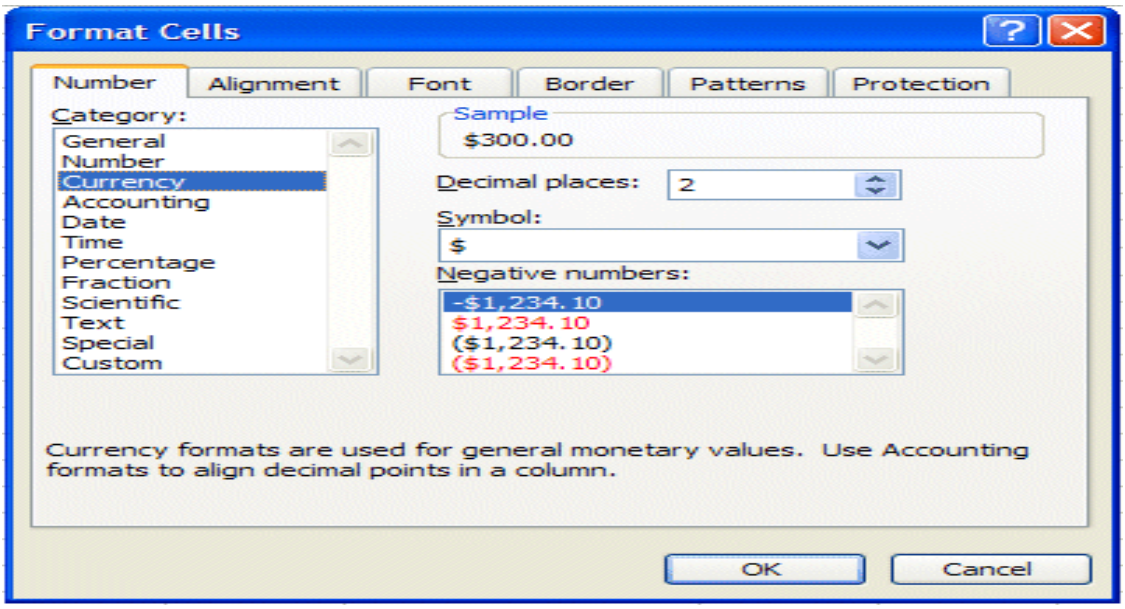
We want our **numbers** to **look better**. To do this we'll include **dollar signs** and **decimal points** in our **numbers**. This is done by **using the mouse. Point** to cell **C6**, **hold down the left mouse button** and **drag (move) down slowly to highlight cells C6 through C19**. Your **screen** should **look like** the image **below**.



Now **point anywhere** in the **highlighted area** and **click** the **RIGHT mouse button**. A pop-up menu will appear. **Click**-on **Format Cells** (like you have done before).

Your Format Cells menu screen will appear – similar to the image at the top of the next page.

Click-on the **Number** "**Tab**" at the top of the **Format Cells menu screen**. Point to **Currency** and **click**-on **Currency.**



Notice **several things**. The **right side** shows the **number of decimal places. The 2** is the default for cents. **We'll use 2**. **Notice above** the **Decimal Places** that there is a **sample** of what our **number will look like**. At the lower right it **shows how negative numbers can appear,** depending on **your choice**. When a negative number is calculated, it will appear with your choice. Now **click**-on **OK**. All the numbers now have $. If you have large numbers that are **"too wide" for** the current **column** width **you will see** some **######## in** the **cells** where these numbers are located. If this occurs in your spreadsheet, go ahead and **widen** the columns as you did previously (**Page 6**).

4			
5	INCOME		
6		Parents	$500.00
7		Job	$50.00
8		Investments	$150.00
9		Total	$700.00
10			
11			
12	EXPENSES		
13		Food	$30.00
14		Beverages	$50.00
15		Parties	$150.00
16		Miscellaneous	$70.00
17		Total	$300.00
18			
19	Net Income		$400.00
20			

Your spreadsheet numbers should now look like the one on the left.

Division

Now move to cell **A21** and type in the word **Percent.** We're going to calculate a fun percentage to show you how division works and give you some more practice with numbers.

Now move to cell **C21.** Using either the **Type-In Method** or the **Point Method,** divide (/) the amount for **Income** in cell **C9** by the amount for **Expenses** in cell **C17**.

[The formula should look like =C9/C17]

This will give you a horrid number so why not put a **percent symbol** with it. Now we'll **repeat** what we did **above to format our $$$$ (Currency).**

Percentages

Point to cell **C21** and click the **RIGHT** mouse button. **Point** to **Format Cells,** then **click** the **Number tab,** then **click-on Percentage. Select zero (O) Decimal Places**. **Click OK**.

Ta Da !!! A **%**.

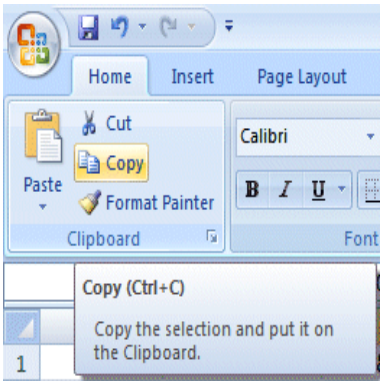
Your **spreadsheet** should **look similar** to the **image below**.

	A	B	C
1			Janie's & Gr
2			
3			SEPT
4			
5	INCOME		
6		Parents	$500.00
7		Job	$50.00
8		Investments	$150.00
9		Total	$700.00
10			
11			
12	EXPENSES		
13		Food	$30.00
14		Beverages	$50.00
15		Parties	$150.00
16		Miscellaneous	$70.00
17		Total	$300.00
18			
19	Net Income		$400.00
20			
21	Percent		233%

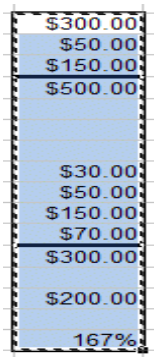
Copying

We could repeat what we did to this point and fill in the Income and Expenses for each of the remaining columns (months). There is a **simpler way** to do this. **Assuming** our income and expense **amounts** are about the **same,** throughout the months, we want to **copy** the **amounts** in **Column C** to **Columns D, E and F**. This will **require TWO "steps**."

First: Move your cursor to cell **C6**. We'll **highlight what we want to copy**; **second**, we'll tell the **spreadsheet where we want to place what we've copied**. So, point to **C6, hold down the left mouse button and drag (move) down the column until cells C6 through C21** are high-lighted. Your **highlighted area** should **look like** the one on the **left**.



Click the **Home Tab** then **click** the **Copy** button.



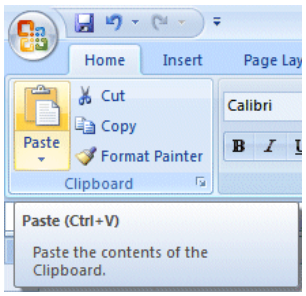
You will **notice** that once again, when you **highlight** an area, a **marquee** of running lights moves **around** the **copy area**. So, you'll know you highlighted the correct area (**image** on **right**).

Now we'll tell Excel **where to copy** the data. Point to cell **D6, click and hold down the left mouse button and drag down and to the right to cell F21** (This will **highlight three columns** -- OCT, NOV, DEC -- to copy to.). When you have finished your highlighting, your screen should **look like** the **image below**.

	A	B	C	D	E	F
1			Janie's & Greg's Budget			
2						
3			SEPT	OCT	NOV	DEC
4						
5	INCOME					
6		Parents	$500.00			
7		Job	$50.00			
8		Investments	$150.00			
9		Total	$700.00			
10						
11						
12	EXPENSES					
13		Food	$30.00			
14		Beverages	$50.00			
15		Parties	$150.00			
16		Miscellaneous	$70.00			
17		Total	$300.00			
18						
19	Net Income		$400.00			
20						
21	Percent		233%			

Make sure you are still on the **Home Tab** and **click** the **Paste button**. **Wow !' All those numbers and dollar signs and formulas - <u>EVERYTHING</u> - was copied in a flash!! That sure saved us a lot of time.**

Your spreadsheet should look similar to the image on the right.



INCOME					
	Parents	$500.00	$500.00	$500.00	$500.00
	Job	$50.00	$50.00	$50.00	$50.00
	Investments	$150.00	$150.00	$150.00	$150.00
	Total	$700.00	$700.00	$700.00	$700.00
EXPENSES					
	Food	$30.00	$30.00	$30.00	$30.00
	Beverages	$50.00	$50.00	$50.00	$50.00
	Parties	$150.00	$150.00	$150.00	$150.00
	Miscellaneous	$70.00	$70.00	$70.00	$70.00
	Total	$300.00	$300.00	$300.00	$300.00
Net Income		$400.00	$400.00	$400.00	$400.00
Percent		233%	233%	233%	233%

Click on a **cell away from the area** where the **numbers are located. This will "turn-off"** the **highlight. Tap** the **Esc key** and the **marquee** will also **disappear.**

Change a **few numbers** in **each** of the **months** in **both** the **income** and **expense** areas to see **how the spreadsheet works**.

Notice how all of the formulas, totals, and percentages change – AUTOMATICALLY!!! This is the POWER of a spreadsheet!!!!

(This will make the graphs we'll create more realistic when we create them later in the tutorial.)

	A	B	C	D	E	F
1			Janie & Greg's Budget			
2						
3			SEPT	OCT	NOV	DEC
4						
5	Income					
6		Parents	$500.00	$500.00	$500.00	$1,000.00
7		Job	$50.00	$50.00	$50.00	$200.00
8		Investments	$150.00	$20.00	$150.00	$150.00
9		Total	$700.00	$570.00	$700.00	$1,350.00
10						
11						
12	Expenses					
13		Food	$30.00	$100.00	$30.00	$200.00
14		Beverages	$50.00	$100.00	$50.00	$200.00
15		Parties	$150.00	$150.00	$150.00	$500.00
16		Miscellaneous	$70.00	$70.00	$70.00	$70.00
17		Total	$300.00	$420.00	$300.00	$970.00
18						
19	Net Income		$400.00	$150.00	$400.00	$380.00
20						
21	Percent		233%	136%	233%	139%

Our spreadsheet now looks like the image on the right.

This would be a great time to Save again.

Now for something to do on your own.

Entering formulas in the Monthly Totals Column

Click cell **G6** (under the title **Monthly Totals**). **Choose one of the formulas you learned earlier to add the four monthly amounts** in the **Parents** row. **Use any of the four methods you desire**. Your spreadsheet should look similar to the image below:

	A	B	C	D	E	F	G	H
3			SEPT	OCT	NOV	DEC	MONTHLY TOTALS	
4								
5	Income							
6		Parents	$500.00	$500.00	$500.00	$1,000.00	=SUM(C6:F6)	
7		Job	$50.00	$50.00	$50.00	$200.00	SUM(number1, [number2], ...)	

After you have **added** the four **columns** in **cell G6**, you'll **copy** the formula in **cell G6** to cells **G7 through G19**. **Click** on cell **G6** and follow the **Copy process** you did on **Page 26**.

Next, **click** on **cell G7**, **hold down the left mouse button**, and **drag down through cell G19**. Your spreadsheet should look like the one to the right.

Now follow the **Paste process** you used **on Page 26** to paste the formula from cell G6 to cells G7 through G19.

F	G
DEC	MONTHLY TOTALS
$300.00	$1,200.00
$50.00	
$150.00	
$500.00	
$30.00	
$50.00	
$150.00	
$70.00	
$300.00	
$200.00	

MONTHLY TOTALS
$1,200.00
$200.00
$600.00
$2,000.00
$0.00
$0.00
$0.00
$120.00
$200.00
$600.00
$280.00
$1,200.00
$0.00
$800.00

After you Paste your formula, you will see some **"stuff (zeroes)"** in cells **G10, 11, 12, and 18**. This is because there was "**nothing there**" to **add**. So, go in and "**clean-up"** these cells by **deleting** the **zeros** in these cells.

Go to cells **G9** and **G17** and **underline** like you did on **Page 5**.

MONTHLY TOTALS
$1,500.00
$200.00
$750.00
$2,450.00
$380.00
$200.00
$655.00
$310.00
$1,545.00
$905.00
159%

Copying the Percentage Formula

Notice that **we didn't copy** the **percentage** formula when we did the last copying process. If we had copied a SUM formula, it would have added the four percentages. We don't want the sum of the percentages. We **want** a **percentage** of **only applies to the overall Monthly Totals**. So, we need to **copy the percentage formula separately**. **Click** on **cell F21**, **copy** the **percentage** formula in cell **F21** to cell **G21**. This is the average percentage that Income is greater than Expenses.

Now put a **$** in cells **G6 through G19** (like you did on Pages 23 and 24) , and a **%** in **G21** (Page 25). Your **spreadsheet column G** should **look something like** the image on the **right**

This would be a great time to Save again.

Absoluting (and multiplication)

There are times, when we are working with a spreadsheet, that we **do not want** a cell to **"roll" to the next column** when we **use** the **copy** feature of the spreadsheet – like it did in our last copying exercise. To **stop** the **cells** from "**rolling**" we utilize something called **absoluting**. The following is an illustration of absoluting.

Go to cell **A23** and type-in **Number**. Go to cell **A25** and type-in **Result**.

Go to cell **C23** and type in the number **2 –** then **tap** the **Enter key**.

We'll now **create a formula** to multiply our **number** times **Net Income**. You may use either the **Type-in** or **Point** method. Go to cell **C25,** and type-in a formula to **multiply cell C23 times cell C19**.

The formula should look like: **=C23*C19**

The result in **C25** should be **two times the net income in cell C19**.

Now **copy** the formula in cell **C25** to cells **D25, E25, F25 and G25**. Your row 25 should look similar to the one below.

23	Number	2				
24						
25	Result	$800.00	$0.00	$0.00	$0.00	$0.00

Point to each of the cells **D25, E25, F25 and G25**. **Notice, as you click on each cell, and look at the screen, how C23** (the cell with the 2) **"rolled" and became D23, E23, F23 and G23 (which are blank** - this caused the **"0's"**). A **blank times** a number is a "0."**We want the 2 to be in each formula and not to "roll".**

To do this we utilize something called **Absoluting** or **Anchoring**. **Go back to cell C25**. Now we'll **enter the formula again**, but a **little differently**(**to anchor the 2**).

Type-in a **=C23** (or you could type = and point to C23). **NOW, tap the F4 function key**. **Notice**, in cell **C25** and the **Edit bar** at the **top of the screen**, that the **=C23 changes to: $C$23**. (This tells you that cell **C23** is **absoluted** or **anchored**. The **"$'s" indicate** the **absoluting**.) Now **finish the formula** by typing in or pointing ***C17** as before. Tap **Enter**.

The formula in cell C25 should look like: **=$C$23*C19**

Now **copy** the **formula** in cell **C25** to cells **D25, E25, F25 and G25** again. Your row 25 should look similar to the image below.

The numbers should now be **correct**. Point to cells **D25, E25, F25 and G25** (like you did before).

23	Number		2			
24						
25	Result		$800.00	$0.00	$0.00	$0.00	$0.00

You will notice the **"$'s"** have **copied** the **=$C$23** to **each cell (absoluting)** and the **Net Income** figures (**Cells D19, E19, F19 and G19** have "**rolled"** as they should. Absoluting is something you should know and understand.

Pause and reflect -- Look at all you have accomplished. If you want go in and change some more numbers or change the income and expense titles to something you feel is more fun or appropriate, please do so.

This would be a great time to Save again.

The next important lesson is to learn how to **print.** This done with a few easy steps.

3.2.10. Printing

First, **click cell A1**.

All of the Windows **spreadsheets try to figure out what you want to print**. Sometimes they're **right**,

sometimes they're **wrong**. So.....

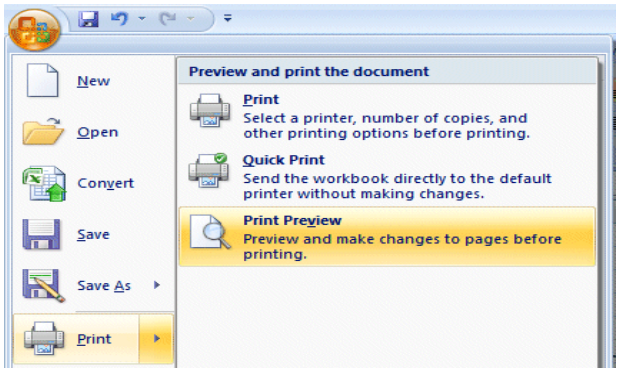
The most important thing with printing is to tell the printer what to print.

Unlike a word processor, you **may need** to **highlight** what you want to print. For the moment, we'll assume that Excel 2007 will "guess" correctly, and that you have not "clicked" somewhere that will cause a problem. If you do have problems, which we'll know in a second, we'll show you how to take care of the problem - a bit later.

It's usually a good idea to **see** what our **printout will look like – before you print it**. First, we'll use a **Print Preview** to "**see**" what our spreadsheet looks like.

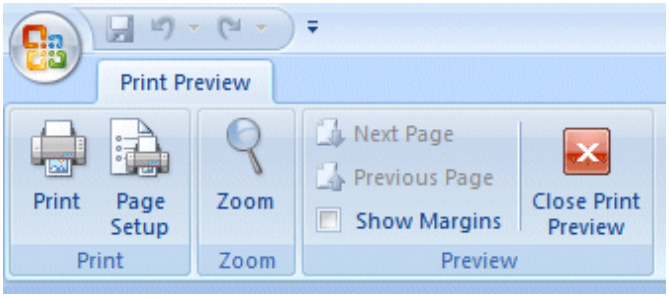
Click the **Microsoft Office Button**.

When the menu screen appears, **move** your **cursor** over **Print** and then **click** the **Print Preview** choice.



At the **top** of the **Print Preview screen** you will **see** the **Print Preview Tab**.

We'll these buttons to assist us with our printing.

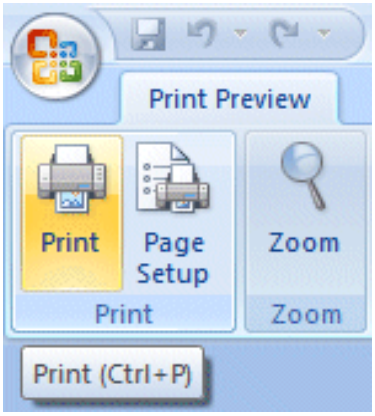


Notice: the **Next** and **Previous** buttons are **not highlighted** – they are just gray. This **means** that the buttons are **not "active."** This **indicates** that we are **OK** with our spreadsheet – it is **all on one page**. If we saw that the Next button was active, this would mean that there are other pages to our spreadsheet. If you'll **look** at the **lower left corner** of the **Print Preview screen** you'll **see: Preview: Page 1 of 1.** This **confirms** that our spreadsheet is **on one page**. **If you do not see this "combination," we'll show you how to take care of it later.**

If you do see this combination, **click** the **Print button**. Then, **Click**-on **OK** in the **Print menu screen** that appears.

Label (write on**) this printout**: **Default Spreadsheet Printout**.

A **picture,** of what the **printout will look like**, **appears below**.



Janie & Greg's Budget

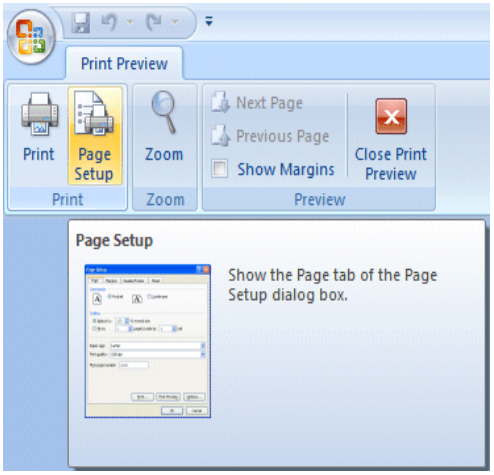
		SEPT	OCT	NOV	DEC	MONTHLY TOTALS
Income						
	Parents	$500.00	$500.00	$500.00	$1,000.00	$2,500.00
	Job	$50.00	$50.00	$50.00	$200.00	$350.00
	Investments	$150.00	$20.00	$150.00	$150.00	$470.00
	Total	$700.00	$570.00	$700.00	$1,350.00	$3,320.00
Expenses						
	Food	$30.00	$100.00	$30.00	$200.00	$360.00
	Beverages	$50.00	$100.00	$50.00	$200.00	$400.00
	Parties	$150.00	$150.00	$150.00	$500.00	$950.00
	Miscellaneous	$70.00	$70.00	$70.00	$70.00	$280.00
	Total	$300.00	$420.00	$300.00	$970.00	$1,990.00
Net Income		$400.00	$150.00	$400.00	$380.00	$1,330.00
Percent		233%	136%	233%	139%	167%
Number		2				
Result		$800.00	$300.00	$800.00	$760.00	$2,660.00

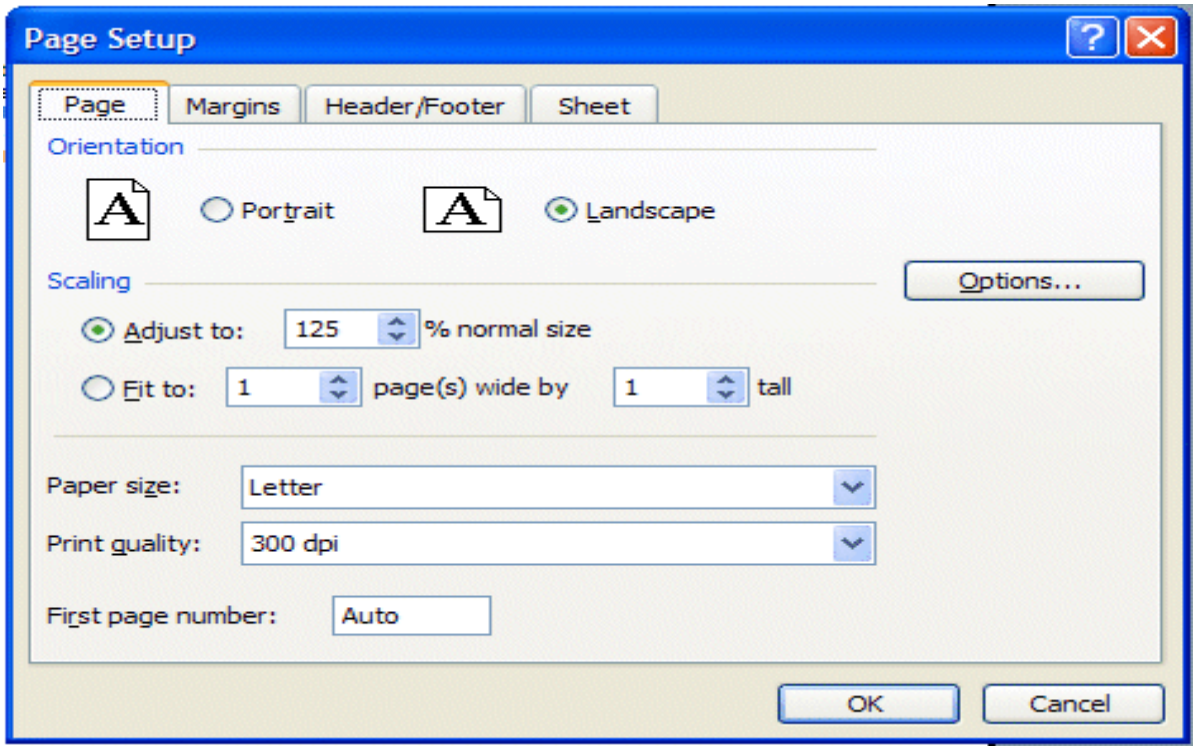
The "**image**" **above** should also look similar to **your spreadsheet.**

If you **move your cursor over the spreadsheet**, you'll **notice** that the **cursor changes** from an **arrow** to a **tiny magnifying glass**. If you **click** the **left mouse button**, your **magnifying glass will "zoom-in" on the exact spot where the magnifying glass is located**. If you **click-again**, it will **zoom-out**. Try this a couple of time. It is a really handy feature.

Now **click** the **Page Setup button** on the **Print Preview Tab**.

The **Page Setup menu screen** at the **top** of the **next page** will **appear**.





Notice that the **Page Setup** menu screen **indicates** that you are in **Portrait** view. Now we'll **enhance** the spreadsheet to make it a bit more presentable. In the **Orientation** area **click**-in the **small circle** to the left of **Landscape (see arrow above)**. The spreadsheet will now print on the page as indicated. Next, in the **Scaling** area, **click**-in **the box to the left of % normal size**. Using either the "**up/down" arrows**, or **by typing** in the information, change the size to **125**. Then click **OK**.

Your spreadsheet will now be larger and fill the paper more appropriately. **Click**-on **Print** and when this spreadsheet comes out of the printer label it: **Landscape – enlarged to 125 %**.

Go ahead and **adjust** the "size" of your spreadsheet so that it becomes **too large** to fit on a single page. Set the **Scaling** to **200** and **click OK**. When you **return** to the **Preview** screen, the **Next** and **Previous** buttons at the top left will now be **active**, and you'll see **1 of 3 or 4 pages** in the **lower left corner** of the screen. Go ahead and **click** the **Next** and **Previous buttons** to get a "feel" for the "size" of your spreadsheet. If you click-on Print (please don't do it), you'll get these 3 or 4 pages. If you made a mistake when you created the spreadsheet, you might see that you have 58 (or some big number of) pages in your spreadsheet!

Now, **click**-in the **small circle** to the **left** of **Fit to 1 page(s) wide by 1 tall** in the **Scaling** area and make sure that **1 page** is set. Excel 2007 will now **return** your spreadsheet to **one** page. Try other things here. Work with the **Margins, Header/ Footer, and Sheet** tabs at the top of the Page Setup menu screen. Any time you desire to print, go ahead and do so. This will give you a feel for how the spreadsheets will print. When you are finished, simply click **OK** or **Cancel** and you will return to your spreadsheet.

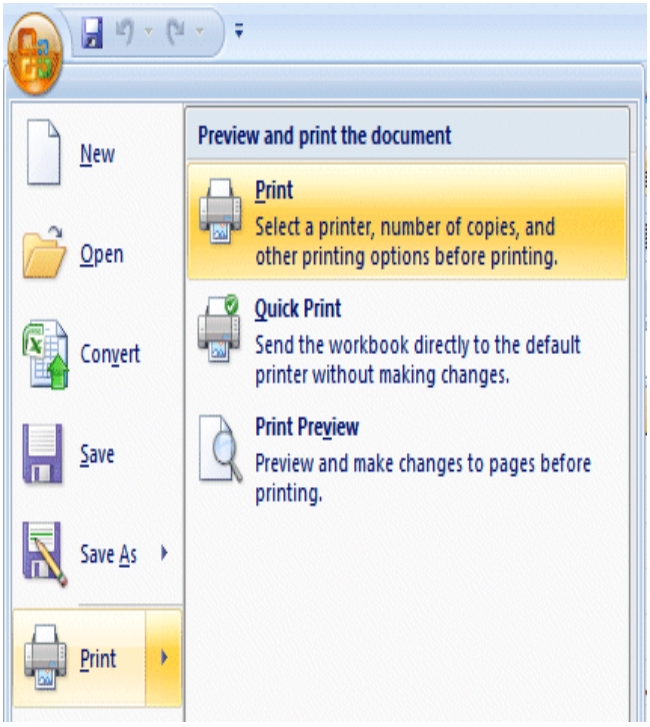
Many people ask how to **center a spreadsheet on the page**. This feature is located on the **Margins Tab** at the **bottom left** of the **Margins screen**.

Many users also ask how to place **gridlines** and **show the row and column headings** (A, B, C and 1, 2, 3) in their spreadsheet printouts. This feature is located on the **Sheet tab** in the Page Setup menu screen.

When you are **finished** working with Print Preview, **click** the **Close Print Preview button**. When you return to your spreadsheet you will see "dashed lines" around your data. Print Preview added these to assist you in knowing where the "edges" of your printed data will be on paper. We'll show you a nice new feature that assists even more in a minute.

Cure for the problem – if you have too many spreadsheet pages.

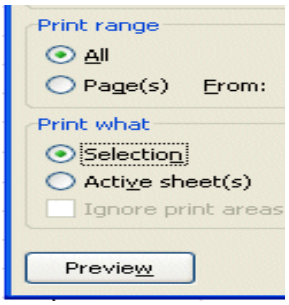
Click cell A1 and **highlight** your spreadsheet down **through cell G25**.



After you've highlighted A1 through G25, click the **Microsoft Office Button** and then **click Print**. In the **Preview and print the document** area (on the **right**) **click Print**

A **Print menu** screen will **appear**.

In the **lower left corner** of the **Print menu** screen you will **see** an **area** that **looks like the image on the right**. **Click**-in the **small circle to the left of Selection**. This indicates to Excel that **you only want to print the area you've highlighted**. **Click OK**. Only the section that you've highlighted will print. **You can still modify your spreadsheet if you desire**. Once you've **clicked Selection**, you may **click**-on the **Preview** button to see a preview of your highlighted area. Follow the instructions above to modify as you desire.

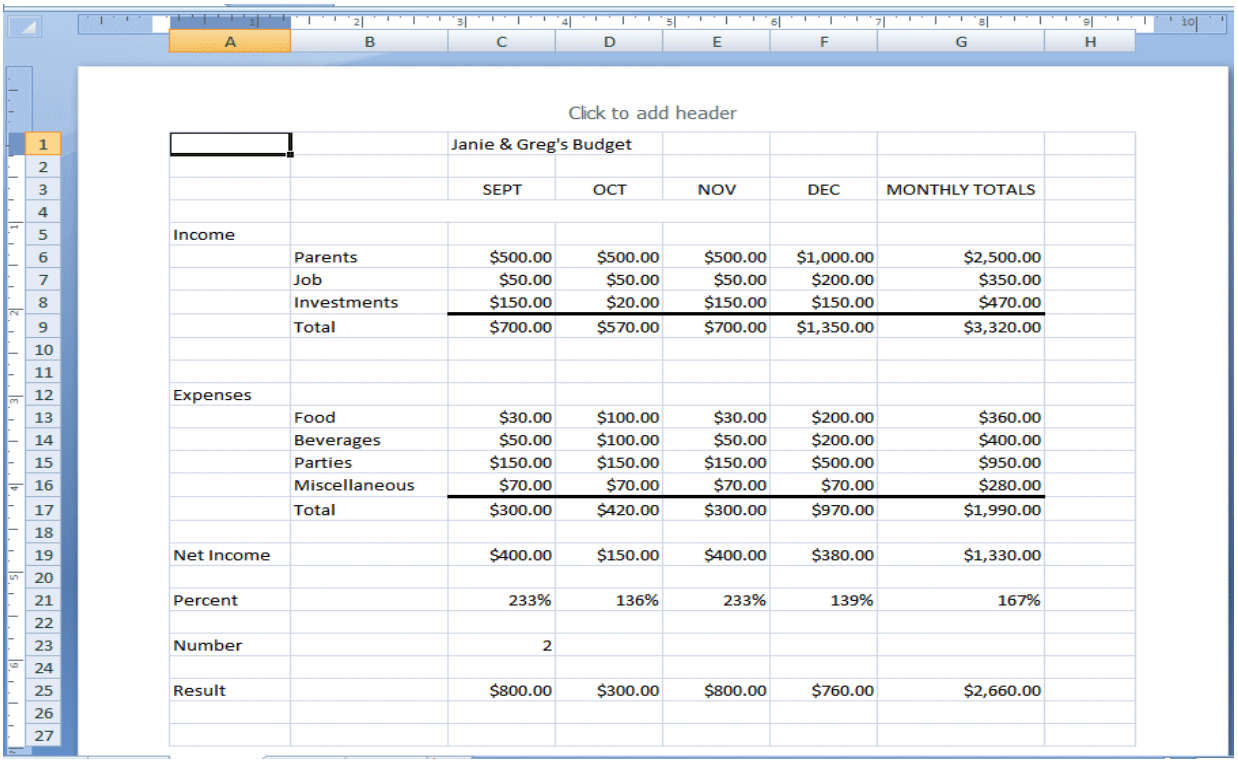


3.2.11. Page Layout View

Now that you have a "feel" for printing your spreadsheets, we'll look at a neat **new feature** in **Excel 2007 – Page Layout View**. In the **lower right corner** of your **Excel screen** you'll see the **Excel 2007 Toolbar**.

The **Excel View Toolbar** looks similar to the image on the right.

You are **currently in Normal View**. Look at your screen and then **click** the **Page Layout button** (as shown above) on the **Excel View Toolbar**. Your Excel screen should look similar to the image below. Wow! Your screen now has all the settings you entered in Print Preview. Notice the Rulers at the top and on the left – just like Microsoft Word! So you now have a very accurate Print Preview as you are working.

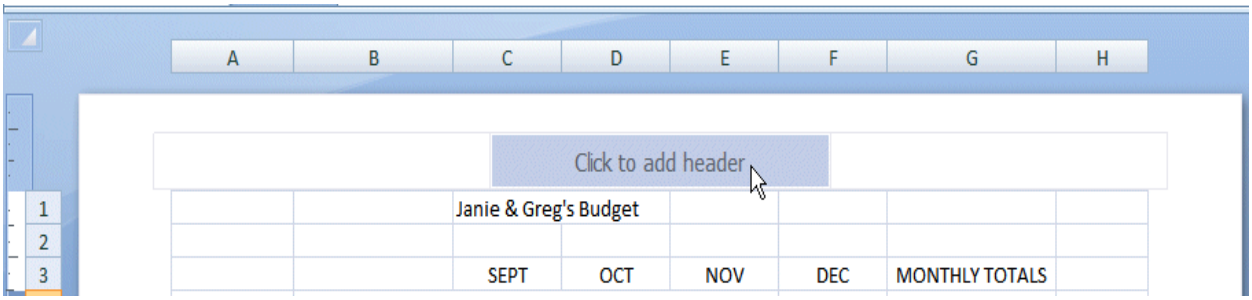


		Janie & Greg's Budget				
		SEPT	OCT	NOV	DEC	MONTHLY TOTALS
Income						
	Parents	$500.00	$500.00	$500.00	$1,000.00	$2,500.00
	Job	$50.00	$50.00	$50.00	$200.00	$350.00
	Investments	$150.00	$20.00	$150.00	$150.00	$470.00
	Total	$700.00	$570.00	$700.00	$1,350.00	$3,320.00
Expenses						
	Food	$30.00	$100.00	$30.00	$200.00	$360.00
	Beverages	$50.00	$100.00	$50.00	$200.00	$400.00
	Parties	$150.00	$150.00	$150.00	$500.00	$950.00
	Miscellaneous	$70.00	$70.00	$70.00	$70.00	$280.00
	Total	$300.00	$420.00	$300.00	$970.00	$1,990.00
Net Income		$400.00	$150.00	$400.00	$380.00	$1,330.00
Percent		233%	136%	233%	139%	167%
Number		2				
Result		$800.00	$300.00	$800.00	$760.00	$2,660.00

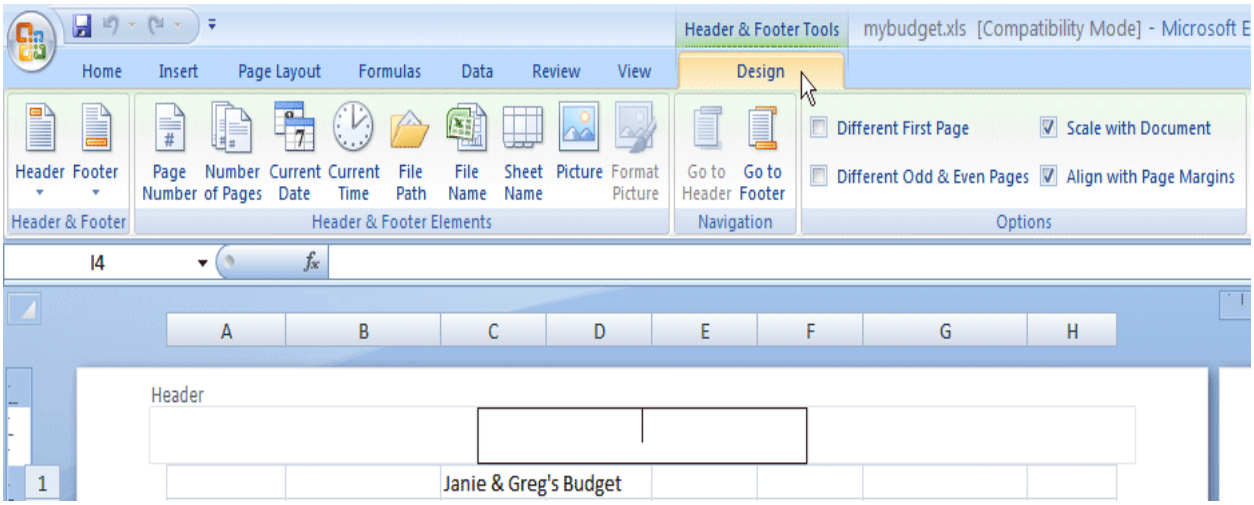
Spend a few minutes using the **Elevator Bars** on the **Right** side and **Bottom** of your Excel spreadsheet to move up and down and left to right. As you move you'll **see** the **Page Breaks** and **Pages as they'll Print**!

3.2.12. Headers and Footers

Look at the **top** of your spreadsheet and you'll also **see an area** which indicates: **Click to add header**.



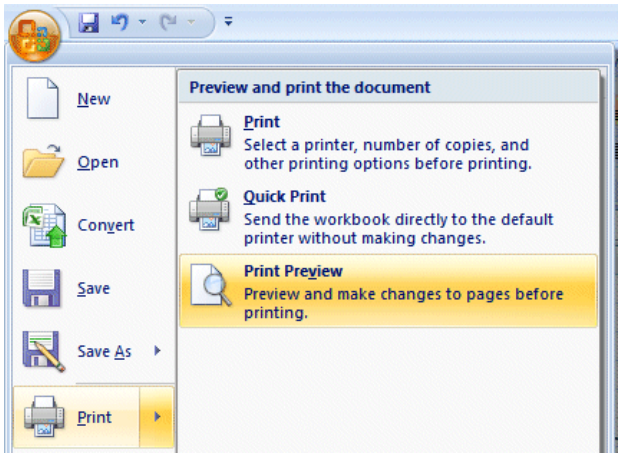
If you desire a **Header** (or **Footer**) on **each spreadsheet page**, you can now create them in this view! **Notice** (**above**) we've moved our **cursor over** the **center Header area** (the Footer area is at the bottom of the page). When we did it **turned light blue**. If you move your cursor over the left and right Header areas, you will see that they'll turn blue as well. If you then **click** on one of these areas you'll **see** a **Header & Footer Tools Tab** – with a **Design Tab below**. In the **Design Ribbon** you'll see that this Tab/Ribbon is "tailored" to work with creating your Headers and Footers. This is one of the great new features in 2007 Office and Excel.



Go ahead and experiment as you desire. This new feature really makes working with Headers and Footers really easy.

Print Preview Button in Quick Access Toolbar

Since you'll be **using the Print Preview feature frequently**, it would be nice to have a **button** in the **Excel Quick Access Toolbar**, so you won't have to do all that "clicking."

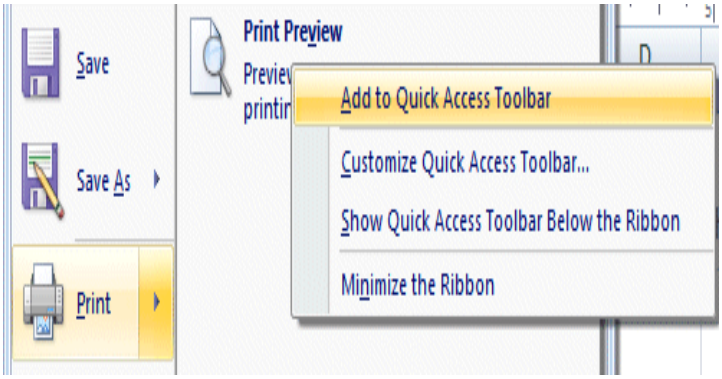


To **add** a **Print Preview button click** the **Microsoft Office Button -** like we did to open our Print Preview..

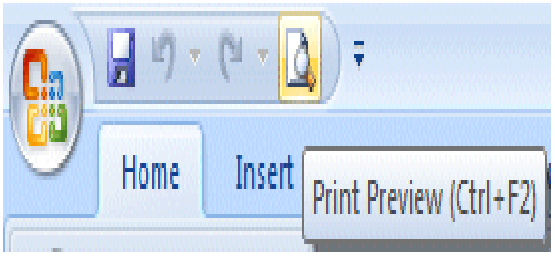
When the menu screen appears, **move** your **cursor** over **Print** and then **move the cursor over** the **Print Preview** choice.

When the **Print Preview** selection "**turns orange**," **click** the **RIGHT mouse button** and a pop-up menu will appear.

Move your **cursor over** the **Add to Quick Access Toolbar** selection and **click** the **left** mouse button.



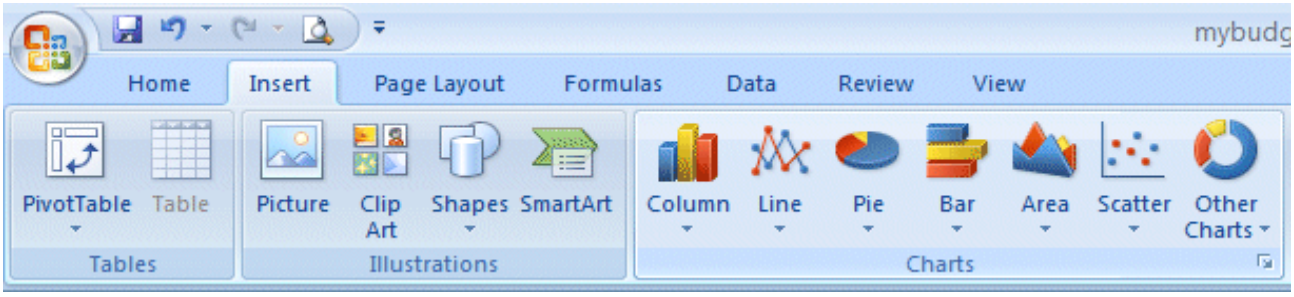
As soon as you "click" you'll see your Print Preview button added to the Excel Quick Access Toolbar! Now, anytime you desire to Print Preview your spreadsheet, all you'll have to do is click the Quick Access Print Preview button.



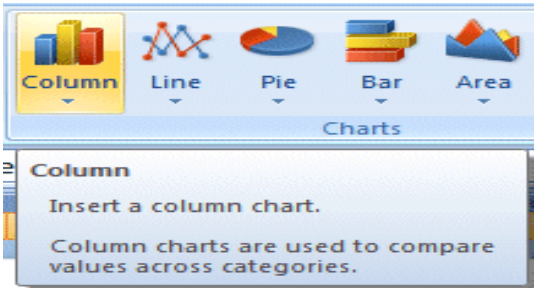
As you see other buttons you would like to add to your Excel Quick Access Toolbar, simply follow the instructions above.

3.2.13. Charts

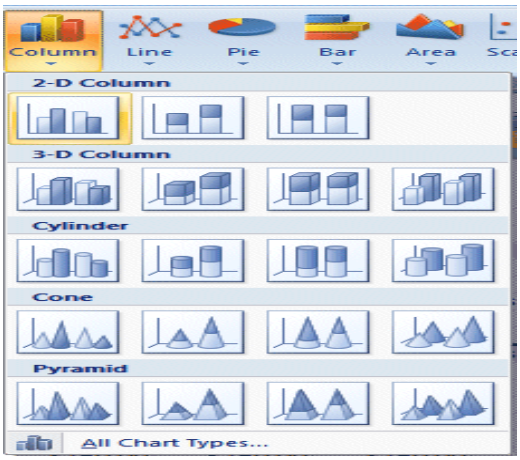
Before we work with Charts, there are a couple of **ESSENTIAL steps** we have to do. First, we have to **tell** Excel 2007 **what we want to see in our chart** and then **were** we want the chart to go. **Click** the **Insert Tab** at the **top** of the **Excel screen**. When you do you'll see that one of the **Groups** in the **Insert Tab/Ribbon** is **Charts**.



For our first chart, **we'll use a Column Chart**. Move your cursor over Column and an image like the one on the right will appear.



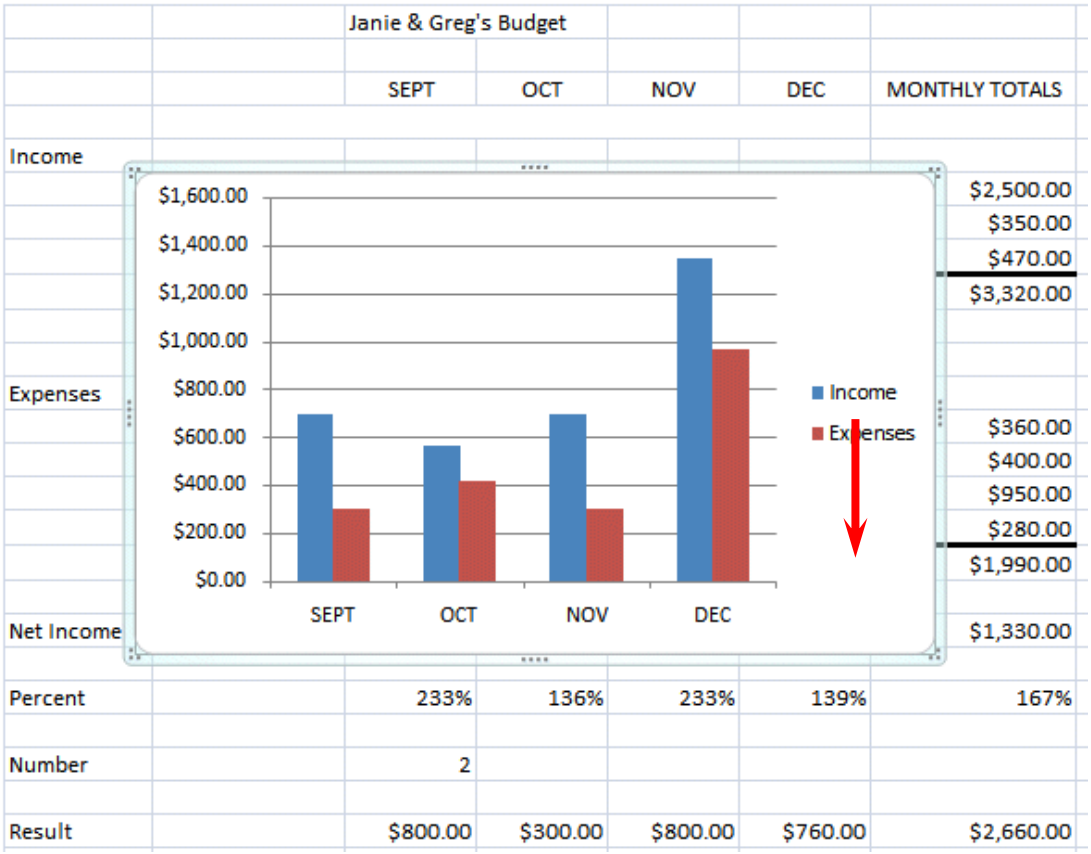
Click the **Column button** and you'll see an image like the one on the left. As you can see there all kinds of Column Charts. We'll begin with a simple two dimension **2-D Column** chart. You'll be able to change this later, if you desire – to another Column Chart of one of the other selections.



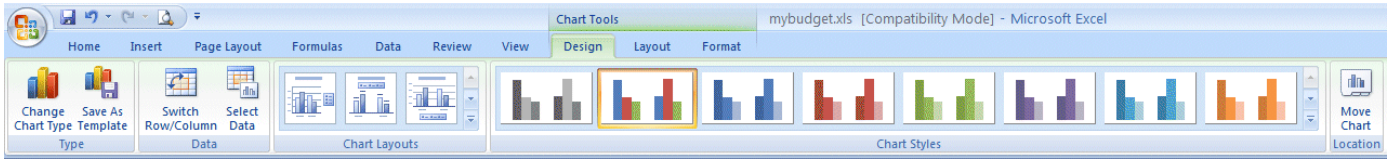
Click on the **2-D Column** chart indicated by the **arrow** on the **left**.

As soon as you click, because you highlighted your data, an **image** similar to the one **below** will appear. **Don't worry that the Chart is covering your data** – we'll take care of that in a minute.

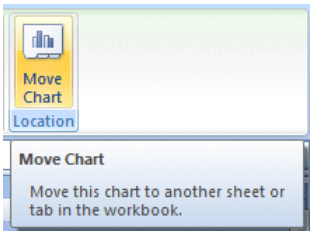
Notice that when we **highlighted** cells **B3 to F3** this **created the X-Axis labels** (SEPT, etc.). When we **highlighted** cells **B9 to F9** and **B17 to F17** this created the two **Income** and **Expense bars for each month**. And, when you **typed Income** into **B9** and **Expenses** into **F9** this created a **Legend** on the **right side of your chart**.



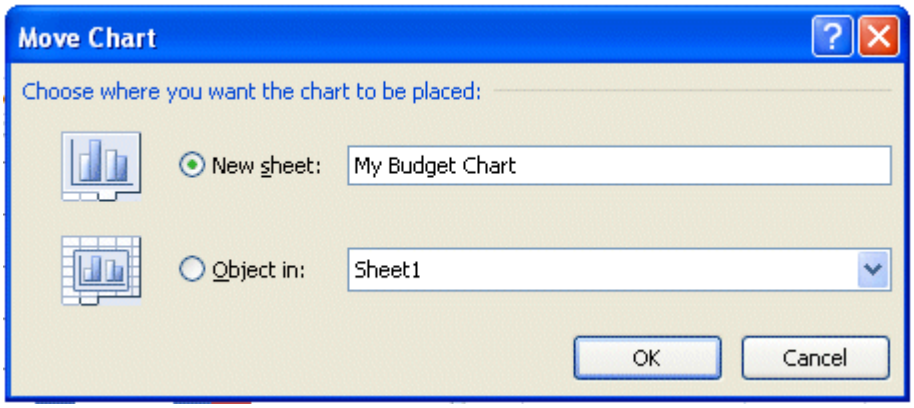
Now, let's **move our chart to a page of its own** – so it will be easier to work with and not cover our data. **Click anywhere on your chart** and you will **notice** that a new **Tab appears** at the **top** of your **Excel screen** – **Chart Tools**. **Click** the **Chart tools Tab** and the **Chart Tools Tab/Ribbon** will **appear** like the image below.



Notice, on **the right end** of the **Chart Tools Tab/Ribbon** is a **Move Chart Location button**. **Click** the **Move Chart Location button**.



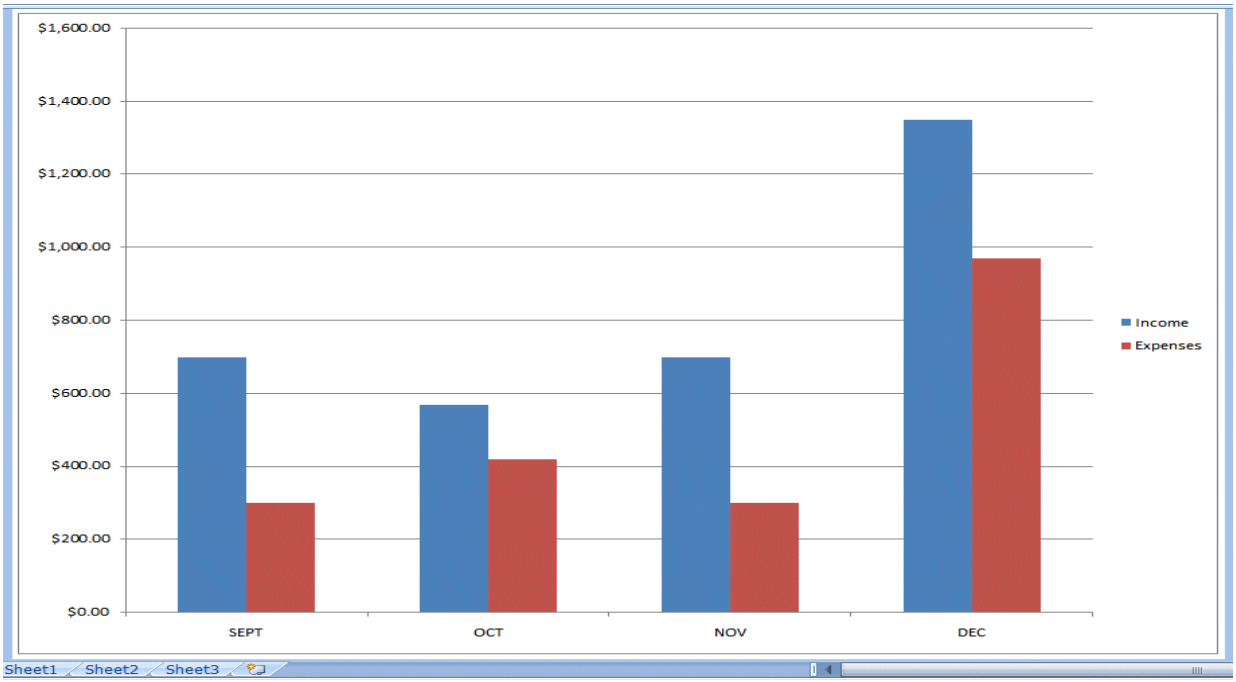
When you **click** the **Move Chart Location button** a **Move Chart menu screen** will **appear** (like the image below).



Click on the **small circle** to the **left** of **New Sheet** and **change** Chart 1 to **My Budget Chart** – as indicated above. Then **click** the **OK** button.

Look at the **bottom left** of your **Excel screen**. You will **see** a **new Tab** – **My Budget Chart**! Your data is on Sheet 1. We'll rename it when we have finished working with our chart.

You should be on you're My Budget Chart Tab. If not, click this tab. Your chart should now fill the Excel screen. **Click** in **one of the outside corners of your chart**.



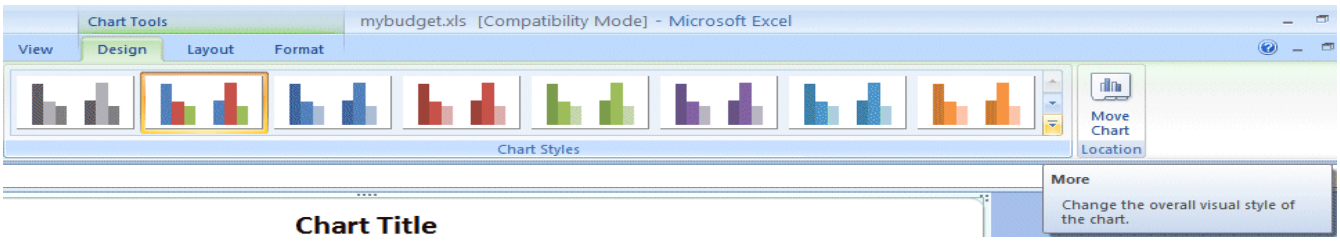
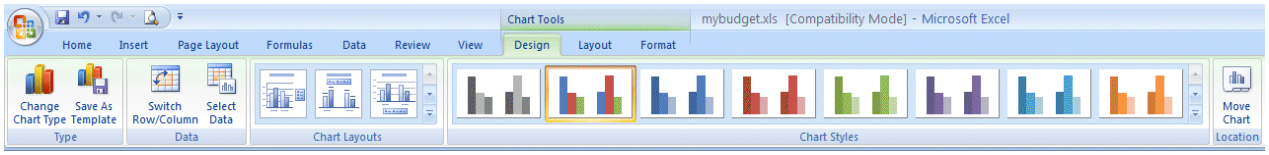
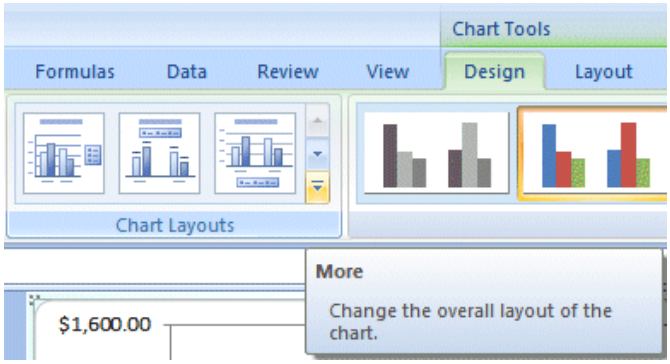


Chart Tools

Make sure that you can still **see** the **Chart Tools Tab/Ribbon**. If not, click the Chart Tools Tab.

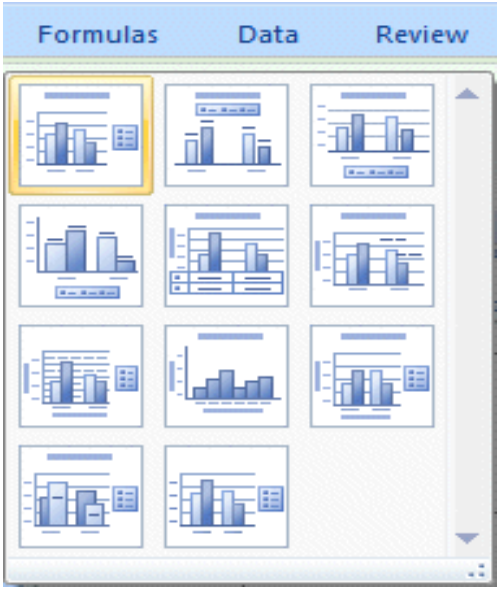


Notice that there is a **Chart Layouts Group** in the Chart Tools Ribbon. There are many different Layouts you can choose to enhance your chart.



Click the **More down arrow** in the **lower right corner** of the **Chart Layouts Group**.

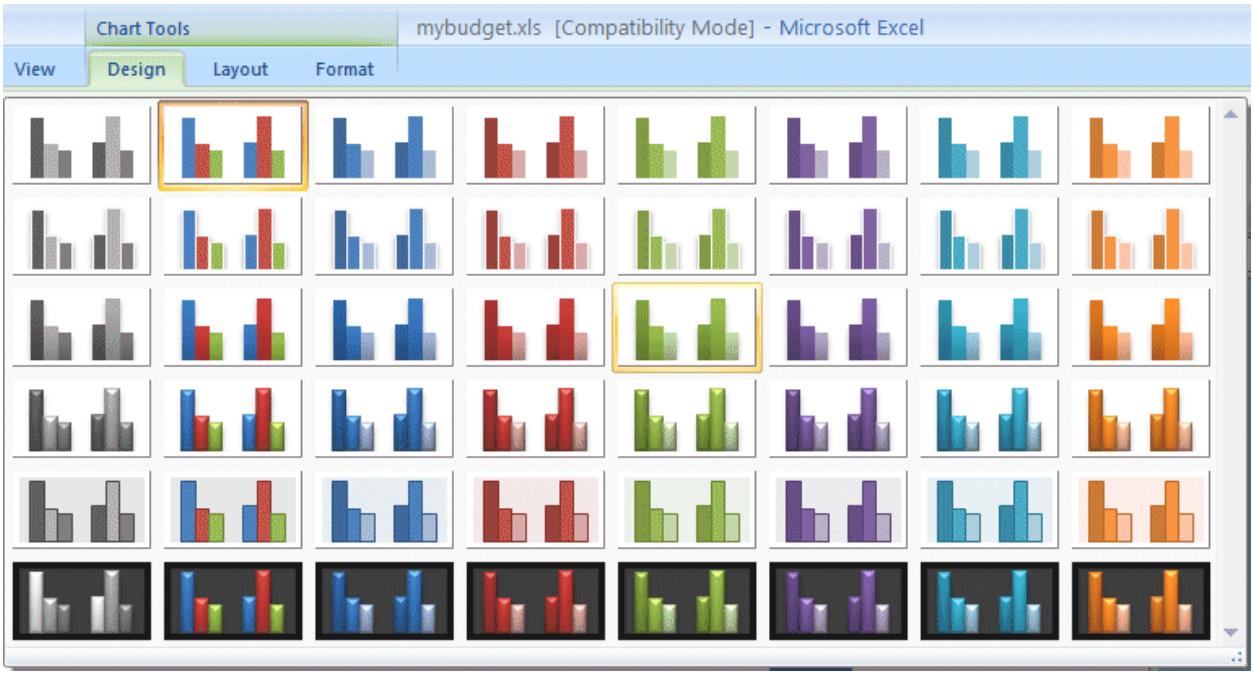
When you click the More arrow an **image** similar to the one on the **right** will appear. **We'll choose** the **Layout** in the **upper left corner**. We'll **click** on **this choice**



As you become more experienced with Charts, you choose the Layout that will best display your data.

You can also enhance the colors of your chart bars and backgrounds in a similar manner. **To the right of** the **Chart Layouts Group** is the **Chart Styles Group**. To **see** these **styles**, **click** the **More down arrow** on the **lower right of the Chart Styles Group**.

Chart Styles



A **Chart Styles menu screen** (similar to the one **below**) will **appear**. You can **click** the various choices as you desire. Each time you click, you're My Budget Chart will change to the Style you chose.

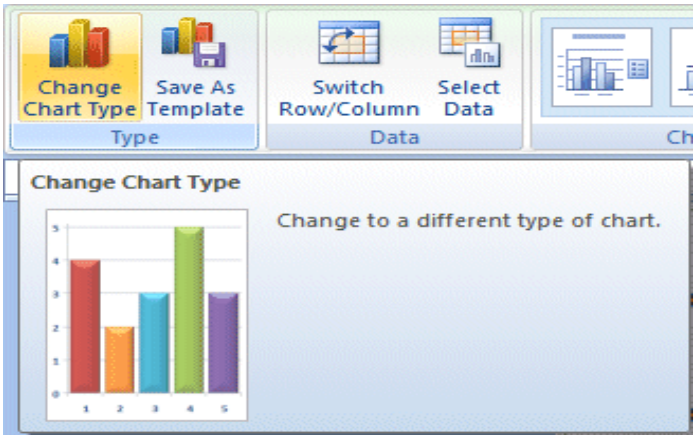
If you don't like the Chart Styles, you can use the **Undo Arrow** (in the **Quick Access Toolbar**) to remove them.

A note – as you choose different Chart Types, you will see the Chart Styles menu (above) change to that new Chart Type.

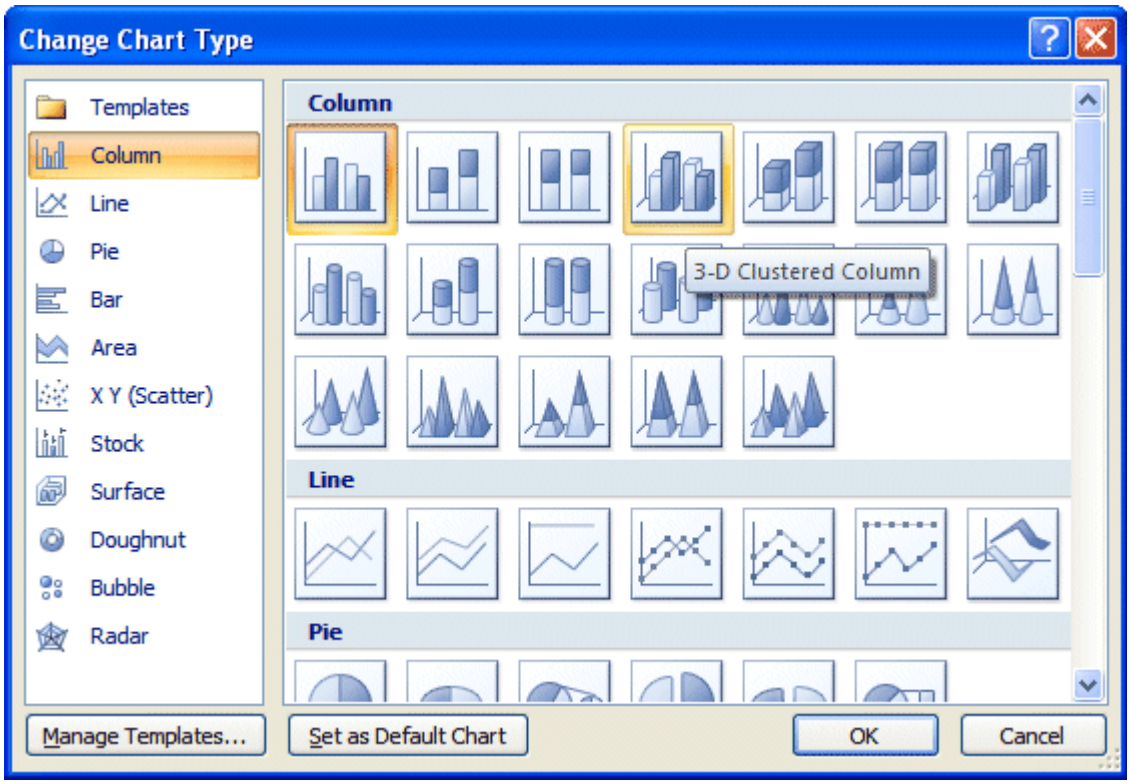
We'll show you another way to enhance the colors of your bars in a moment.

If you would like to **change your Chart Type** – look in the **upper left corner** of the **Chart Tools Ribbon**. You'll see a **Change Chart Type button**.

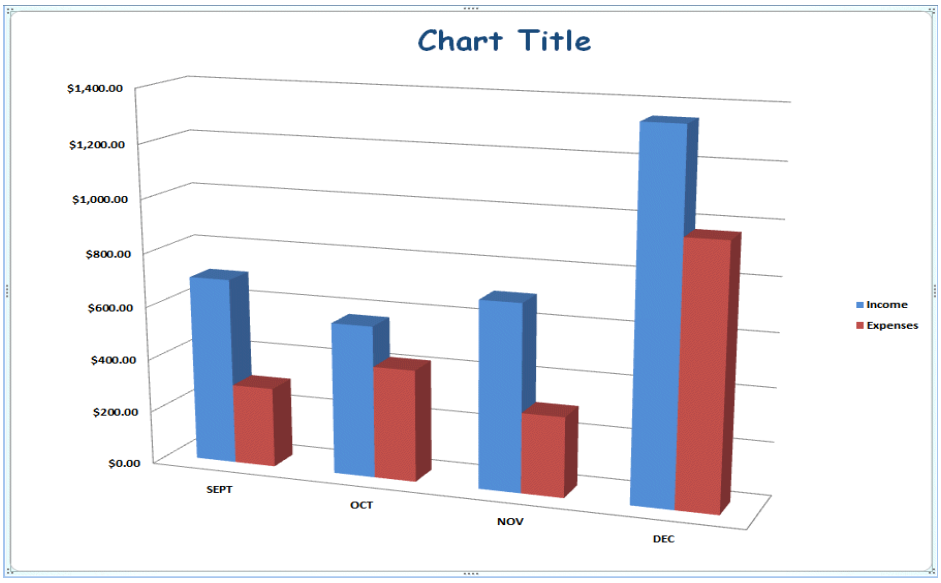
Click the **Change Chart Type button**.



A **Change Chart Type** menu screen (**below**) will **appear**. Currently it is "on" our 2-D Column Chart. We'll **change it** to a **3-D Clustered Column chart** next.

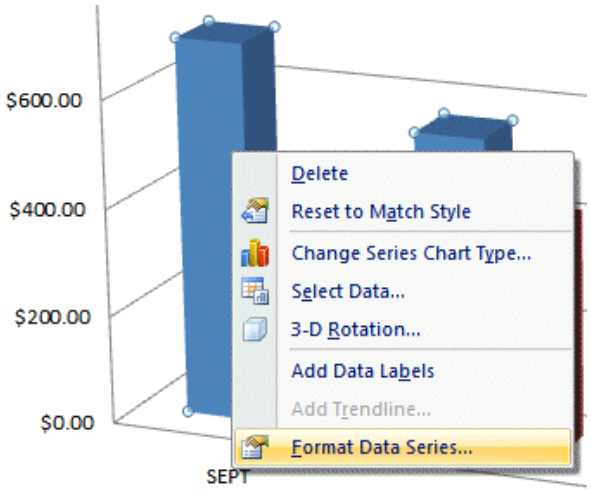


We'll **click** the **3-D Clustered Column** choice and then **click** the **OK button**. As soon as we click the OK button our entire **chart changes to a 3-D Chart**.



Another way to change chart colors

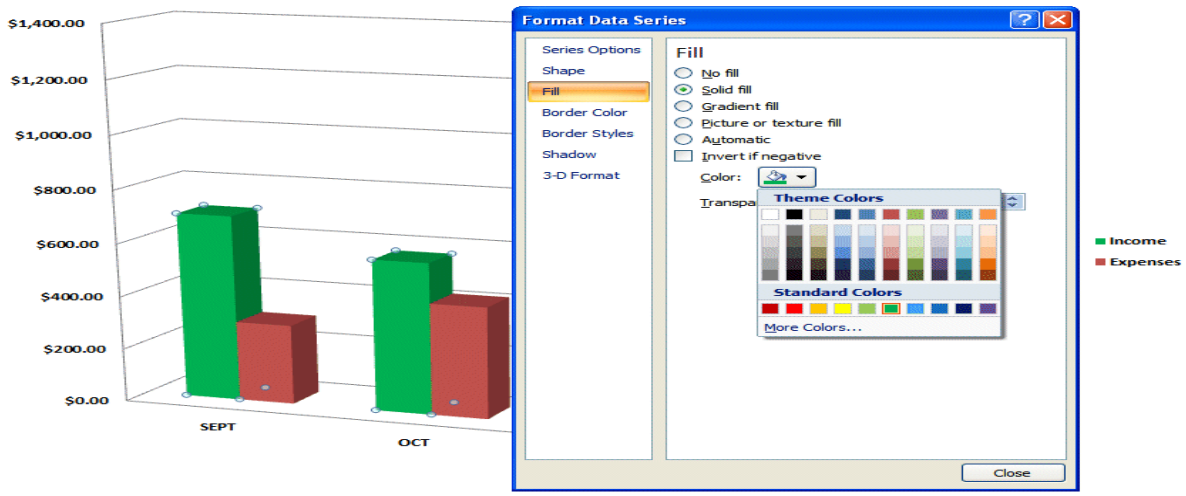
On Pages 44 & 45 you saw how you could change the colors of the bars in your chart (**Chart Styles**). Here is the second way to change colors that we promised.



Move your cursor over one of the bars in your chart and **click** the **RIGHT** mouse button. When the **pop-up menu** appears, **click** the **Format Data Series…** selection.

A **Format Data Series menu screen** (like the one below) will **appear** "over" your chart. In our original chart the Income bars were blue. We think green would be a better color for our Income bars. So, we **clicked** the **Fill choice** on the left. When the Fill menu appeared on the right, we **clicked** the **small circle** to the **left of Solid fill** and then **clicked** the **down arrow** on the **right side** of the **Color button**. Then we **clicked** the **green color** choice (if you would like to see a lot more colors you can click More Colors…). **As soon as we clicked** our **Income bars** changed to **green**.

Notice the **other choices** in the **Fill menu** area. Experiment with the other choices as you desire. You can really get some neat effects with **Gradient** and **Picture or texture** fill.

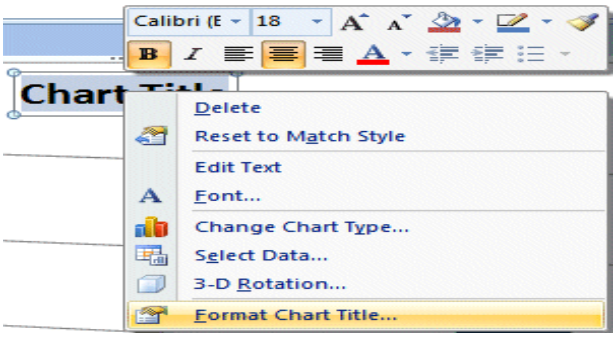


When you are **finished**, click the **Close** button.

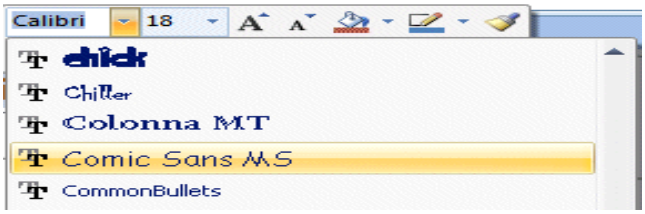
3.2.14. Changing Text

To **change text** in Excel 2007 you need to **click** on the **text**, the **Legend**, or the **axis** on which the text is located.

We **RIGHT clicked** on our **Chart Title** and two menus appeared. The **upper menu** is another new, great feature in Excel 2007. It's called the **Mini Toolbar**. The lower menu is the standard menu that appeared previously.



We **clicked** the **down arrow** to the **right** of **Calibri** and a **drop down** menu of font choices **appeared**. We moved down the list and clicked-on Comic Sans MS. You move down the menu and **choose a font you like**.



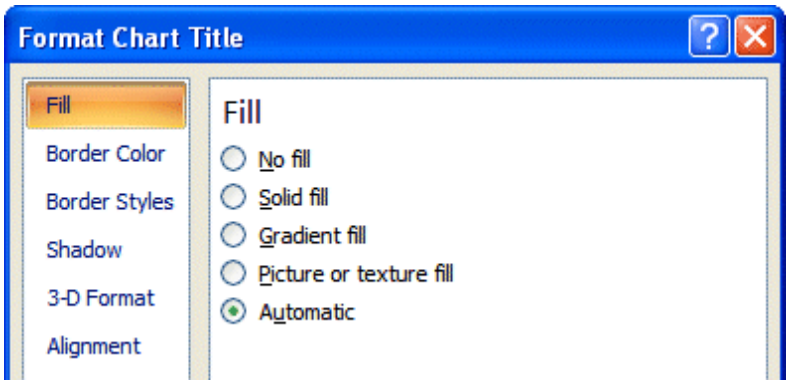
As soon as we clicked our font choice, our Chart Title changed to that font.

You can also change the Font size, Bold, Color, and more using the other Mini Toolbar selections. Experiment as you desire

Now we'll **change** our **Chart Title** to something more meaningful. Move your **cursor over Chart Title** and **click** the **left mouse button three times quickly**. This will **highlight all** of the **title** – just like Microsoft Word. **Or**, you can **click and drag** your cursor of the title to highlight Chart Title.

Type in a **title** for your budget. We typed in the title you see below. When you have **finished** typing your title, **click** the **left mouse button** in an **"open" area** of your chart (**to turn-off and confirm the title**)

If you desire to enhance your text some more, RIGHT click on the title and the Format Chart Title menu screen will appear. You can use this menu to augment your text.



Now it would be a good time to Save again.

In **Excel 2007**, when you save your **spreadsheet,** you also save your **graph.** Your graph is saved wherever you are working in the graph.

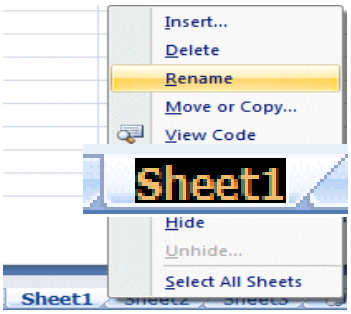
Changing (Renaming) Excel 2007 Tabs

If you would like to have **logical names** for your **Excel 2007 spreadsheet tabs** – rather than Sheet 1 and Chart 1, we'll show you how to do this.

At the **bottom** of your **spreadsheet** you will see you **tabs** (like the **image** on the **below**). To **change the name** of one of the **tabs**, **place your cursor over a tab** and **click** the **RIGHT** mouse button.

We'll **change** the name of **Sheet 1** first.

RIGHT click on **Sheet 1**and the drop down menu screen to the right will appear. **Choose Rename**.



When you choose **Rename**, the **Sheet 1 tab** will "**turn black**" – like the **image** on the **right**. **As soon as you see this, type in the name you want for your chart**. We **typed** in **Budget Data**.

As soon as we began typing, the tab name changed. When we finished, the Tabs for our Chart and Data looked like the image on the below.

So, anytime you need to change Tab names, all you have to do is Right Click and Rename.

Some additional Charting

Sizing your Graph Area - **Click**-on the **upper right corner of your chart area**. You will see **little circles** now appear at the four corners and sides of the graph area. Point to the **upper right corner circle** and move the cursor until you see an **arrow with two heads** ↔ . **Click** and **hold down the left mouse button** and **drag down and to the left** then let go. Your graph will get **smaller**. You can make the graph area of your chart smaller or larger as you desire.

Legend Area - **Click**-on the **Legend** on the **right** (box with Income and Expenses). When you see the corner "grabbers," make the Legend box a bit larger. Then **click right** in the **Legend** area. When the **Quick Toolbar appears,** make the **font bold** and **size 14**.

Printing Charts - Now let's look at your graph and then print it. **Click** the **Print Preview button** you placed in the **Quick Access Toolbar**. If you like what you see go ahead and **print** the graph. If not, close Preview and make some more graph changes. If you have a color printer, your graph will print in color.

Whenever your **graph** is **visible**, you can **point** to **any area** of the graph, and **click** the **right mouse button** on the area, and **edit** that particular area. You can also **click**-**right** in the **chart** itself.

You can really go "wild" at this point. If you make a **mistake**, simply click the **undo button** at the top of the menu screen and try again.

Note: No matter what type of printer you have, graphs take awhile to print. Be patient.

Well that's it Excel 2007 fans! Go for it!

3.3. Presentation software

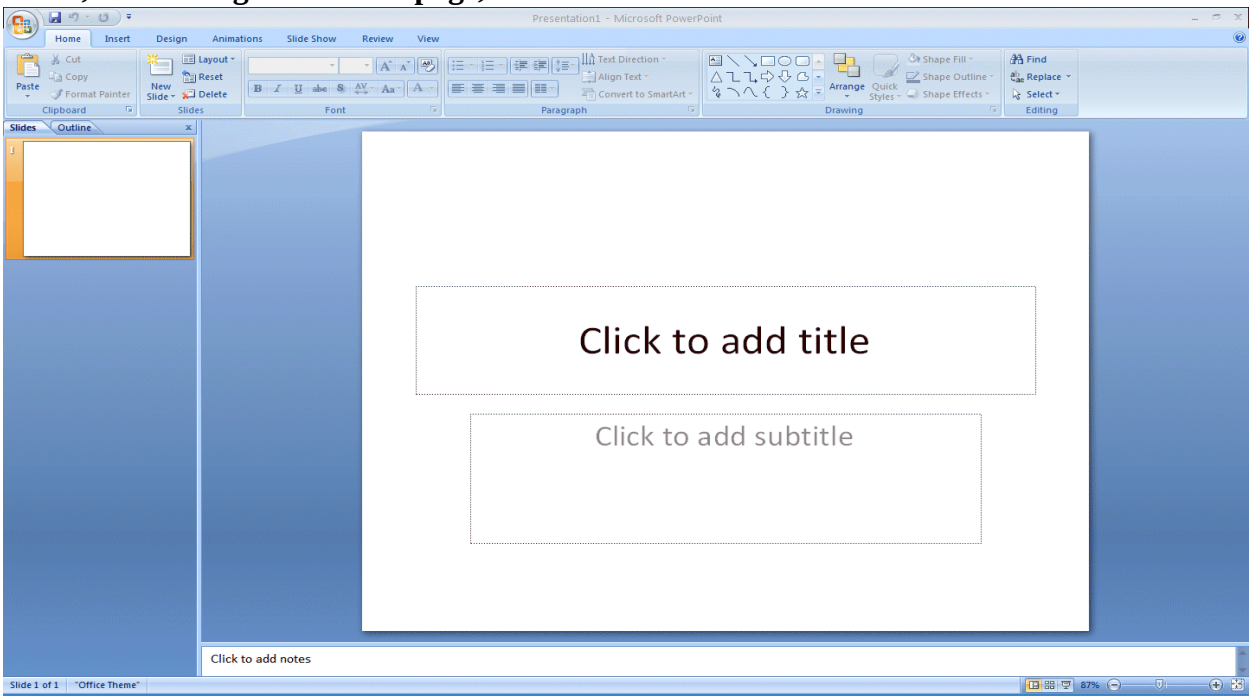
3.3.1. Starting PowerPoint

In this tutorial, whenever we indicate that you need to **click** a **mouse button**, it will mean to **click** the **left mouse button** – unless we indicate that you should click the right mouse button. So, always move the cursor over the "place" we indicate and "click left" unless we tell you otherwise.

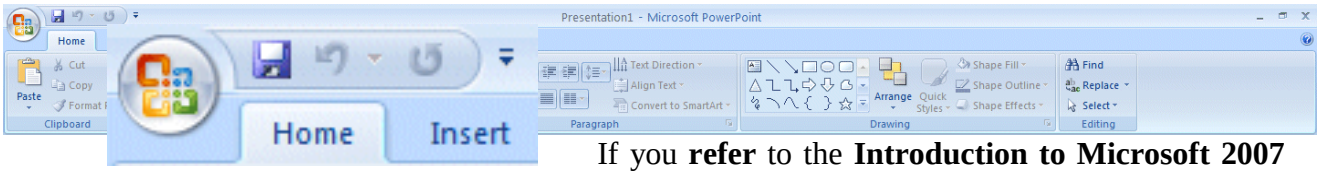
If you have been using PowerPoint 97, 2000, XP/2002 or 2007 this will be a wonderful journey. You will find many exciting new features and enhancements. Almost everything is "graphical." When PowerPoint opens, the appearance of the screen will be very different. Once you get used to the new 2007 features, we think you'll find it much easier to use as you create and edit your PowerPoint slides.

In the image below you'll immediately see that the **Menu Bar** has been **replaced** by **Tabs** and **Ribbons**. The **Tabs** and **Ribbons** are then **divided into Groups**. We'll be working with these new features in detail as we move through the tutorial

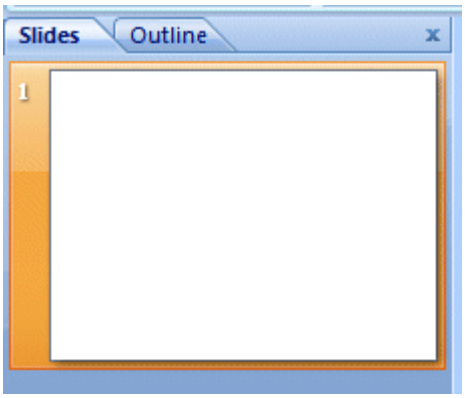
Notice, in **the image** on the **last page,** that the **screen** is "sort of" **divided** into **three sections**.



Across the top are the **Microsoft Office Button**, the **Quick Access Toolbar** and the Tabs, Ribbons and Groups (indicated on the last page).

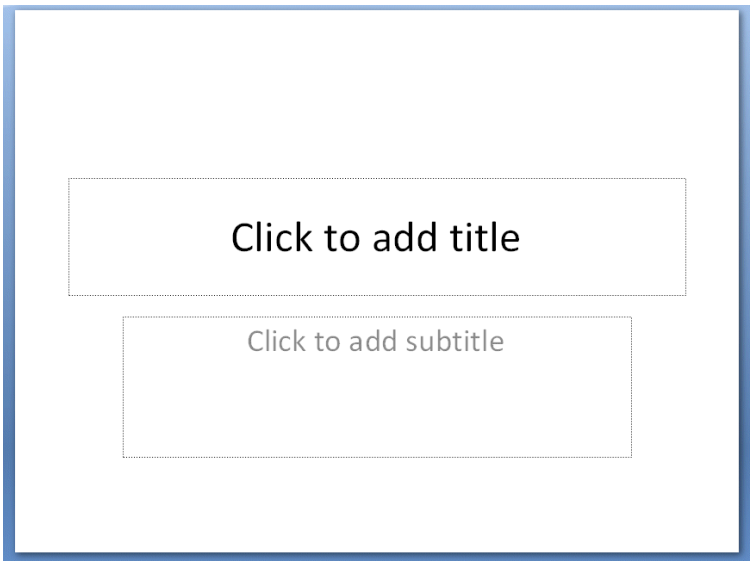


If you **refer** to the **Introduction to Microsoft 2007 Tutorial** you'll find a **detailed explanation** of how to use these new features.



On the **left side** of the PowerPoint screen you'll see an **area** that indicates **Outline** and **Slides** at the **top**. When you first open PowerPoint 2007 you'll **notice** that the **Slides Tab** is "**white**." This means that you'll be able to **see a small version of each slide** as we create it.

To the **lower right-center** of the screen, you'll **see** a **PowerPoint Design Template**. We'll be using these templates to create our slide show. We'll come back to this in more detail later in the tutorial.

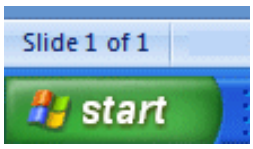


3.3.2. Beginning the presentation

3.3.2.1. Slide 1

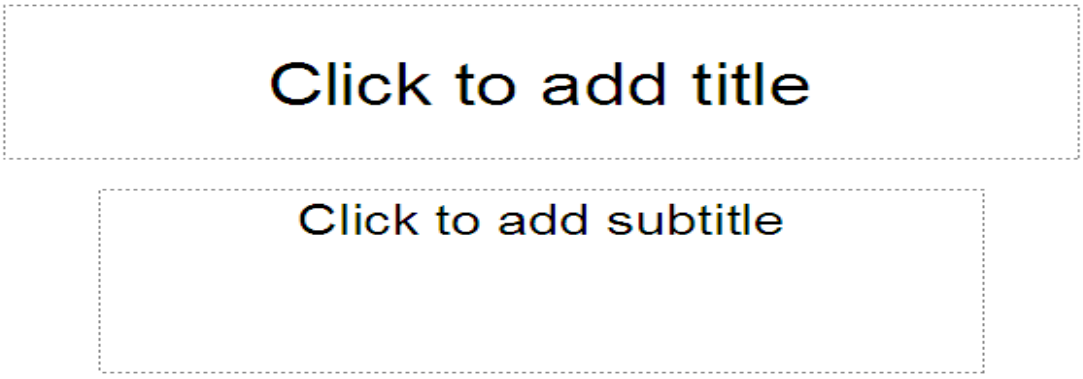
In PowerPoint 2007 a **Slide Layout** named **Title Slide always appears first**. PowerPoint "thinks" that you want to start your presentation with a title. So, logically, the Title Slide appears in the main section of the screen.

After you understand PowerPoint a bit more, you can choose any of the layouts you desire. We'll show you how to do this as we proceed through the tutorial.



You will notice, in the **lower left corner of the screen, Slide 1 of 1** is indicated.

You will also see that your **screen looks like** the **image below**.



Now we'll have some fun and create a PowerPoint 2007 presentation on how to make a Peanut Butter and Jelly sandwich.
Place your cursor in the "Click to add title" box and Click the left mouse button. Your text box, after you click, will look similar to the one below.

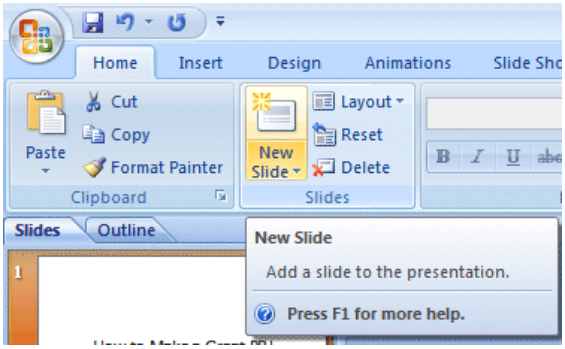
To insert the text in this formatted text box, we simply enter (**type-in**) the title: **How to Make a Great PBJ –** go ahead and type this text in the box**.**

Now**, Click** in the second box "**Click to add sub-title"** and **type**:

A Gourmet Recipe (tap the **Enter** key**) From (**tap the **Enter** key**)**

New Slide Button

Now it's time to create the next slide in your presentation. To do this, we'll need to **find** the **New Slide** button.



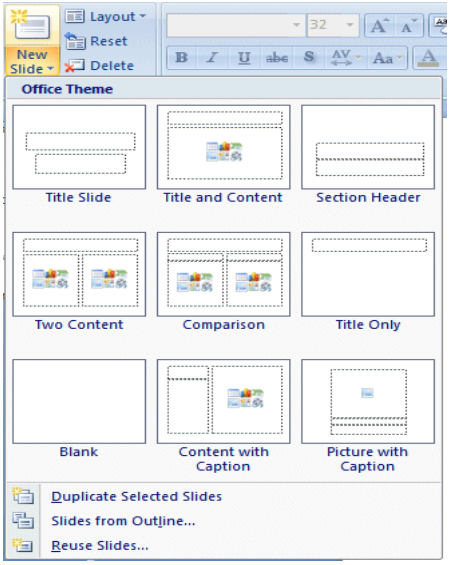
At the top left of the screen, in the **Home Tab** you will see a **New Slide "button"** which looks like the **image** on the **right.**

When you **move** your **cursor arrow over** the button you will **see** a **Microsoft Help Text box** appear that says **New Slide**.

Now this is a **bit tricky**….. **Look** carefully at the **lower right corner** of the **New Slide button** and you will see a **down arrow**.

Click-on the down arrow to create your **next** slide.

If you **accidentally click** the **button**, and a new slide appears, **don't worry**, we'll show you how to change to the slide format you desire later in the tutorial.



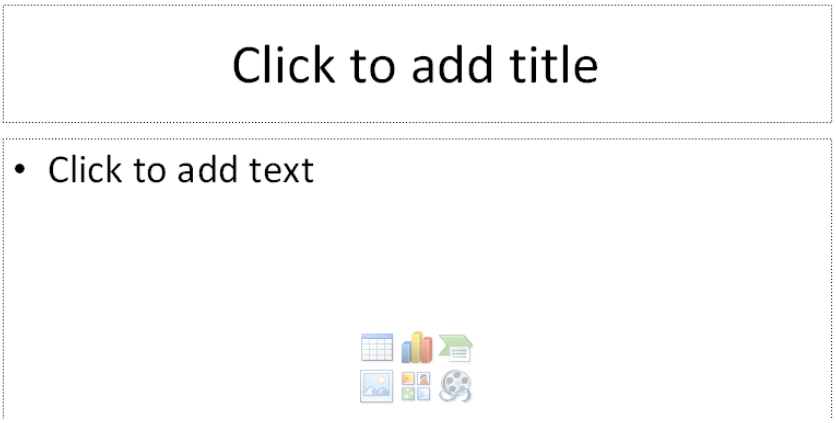
When you **click** the **arrow** an **image** similar to the one on the **right** will appear. We'll use the **Title and Content** slide for our second slide. C**lick** this choice.

3.3.2.2. Slide 2

Your new **Slide 2** should look like the **image below** – **even if you did not click the arrow**.

For those who are familiar with previous versions of PowerPoint, you will notice that several different Slide Layouts have been combined into this smaller number of choices. All of the Layouts are available, but in new "combinations."

The **Title and Content** slide (on the **right**) combines several of the Text and Content Layouts. We can choose to use the Bulleted List, or the Content choices. For Slide 2 we'll use the Bulleted List. We'll use the Content choices later.



Click in the **Click to add title** box and type: **Ingredients.**

Click in the • **Click to add text** box and type:

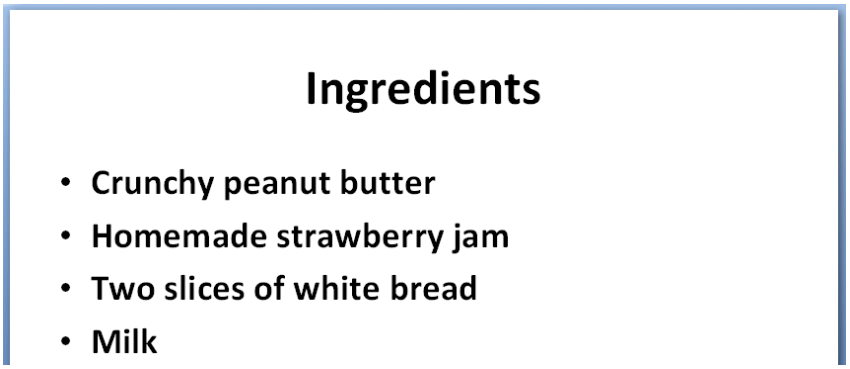
Crunchy peanut butter (tap **Enter**)

Homemade strawberry jam (tap **Enter**)

Two slices of white bread (tap **Enter**)

Milk

Your Slide 2 should look like the image on the right.



Notice how each line appears with a "bullet" (•) in front of it.

As soon as you began typing "Crunchy peanut butter," you probably noticed that PowerPoint guessed that you wanted to use this Layout as a Bulleted list – so it took away the Content choices. This is a new feature in PowerPoint 2007.

Saving your work

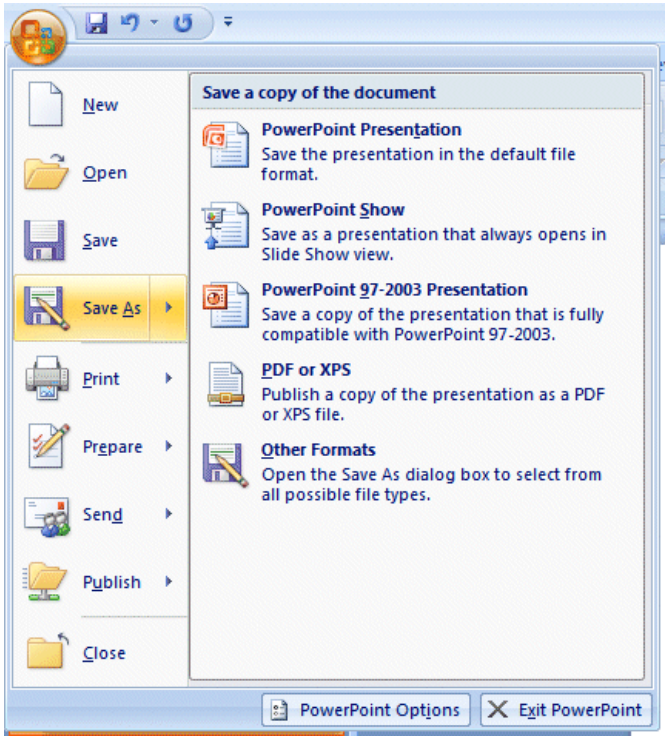
Now would be a good time to save your work for the first time.

Notice, you **have** the **small save diskette** in the **Quick Access Toolbar**.

However, there is **no longer** a **Menu**

Bar with File - Save. The **Microsoft Office Button** is now used for File menu choices.

Click the **Microsoft Office Button** and the **menu** on the **right** will **appear**. **Notice** that we **purposely** moved our **cursor** over **Save As** and it turned orange. We did this so you can **see** the **various Save choices** on the right side of the menu screen under **Save a copy of the document**.



Notice…… You now have several new choices for saving your presentation.

PowerPoint Presentation – saves your presentation as a .XML (Extensible Markup Language) file. This is a new saving format that creates a smaller file size. However, this file type is not compatible with older versions of PowerPoint. So, if you share your XML presentation with someone they will have to download a Compatibility Pack. They will see a message similar to the one below when they try to open this file on an older version.

If they click "Yes" – they should be taken to a Microsoft Compatibility Page site for this download. The current site is: http://www.microsoft.com/office/preview/beta/converter.mspx.

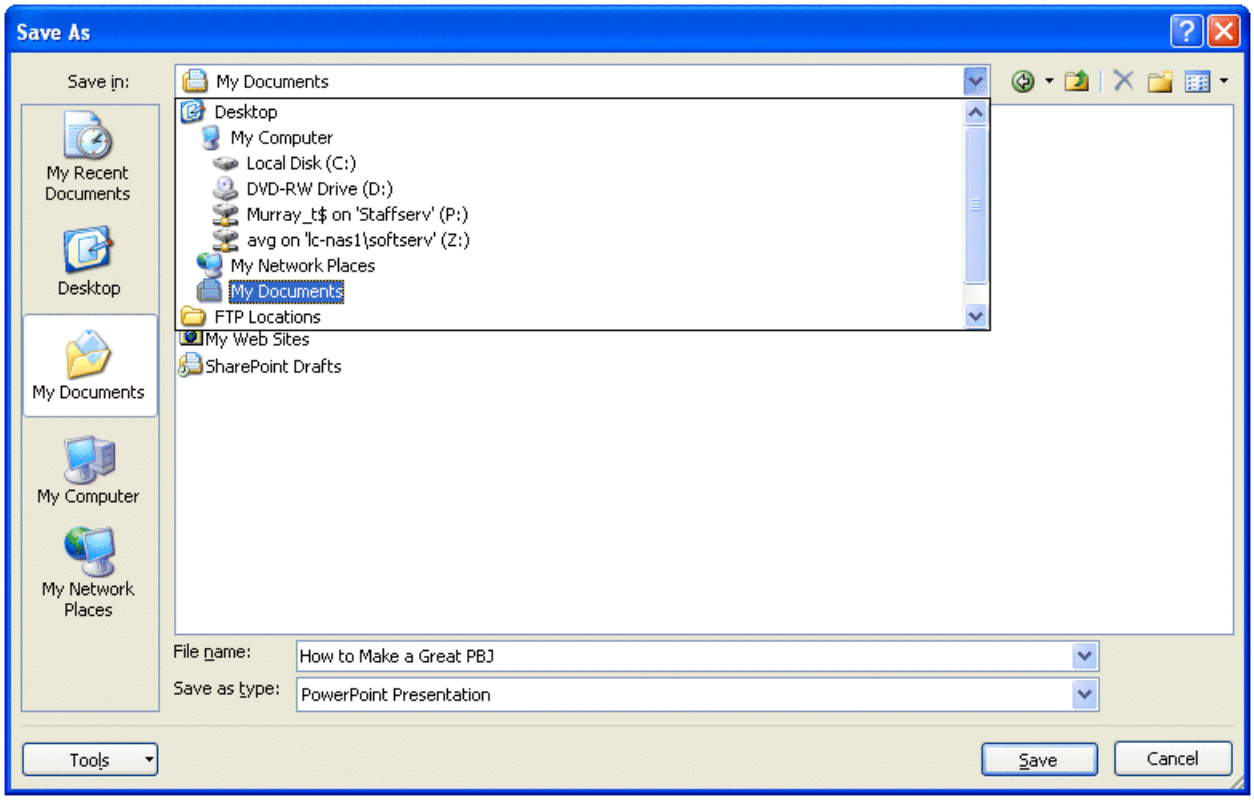
"The presentation they see may not look exactly like the one you created if it contains features from PowerPoint 2007 that they don't have. But they can open, edit, and save it in the format for PowerPoint 2007." (2007 Microsoft Office Preview webpage).

PowerPoint 97-2003 Presentation – as indicated, this choice is totally compatible with older versions of PowerPoint. want to save, by double clicking quickly on the folder.

PDF or XPS – You can now save your presentations as PDF Files! Wow!

For this tutorial we are going to save our file as a PowerPoint Presentation.

In the **upper left corner,** of the Menu Screen that appears, you will see: **Save in**. **Click**-on the **small " V "** to the **right of the area next to Save in**: (see **arrows**) and it will show you the various **disk drives available** on which you can save (**image below**). Point to the **drive you desire,** and **click-on it**. If you choose the **3½ Floppy** (**A:**) – make sure you have a **formatted diskette in the A drive**. If you choose the C: drive, choose the folder in which you



Now click in the box to the right of **File name**: and you will see that How to Make a Great PBJ has already been entered. PowerPoint assumes you desire to name your presentation with the name of your first text entry in your first slide. If you do not want this name, delete How to Make a Great PBJ and type in the file name you desire. Then click **Save** (see **arrows above**).

One of the really nice things about Office 2007 and PowerPoint 2007 is an auto-save feature that will save your file if you forget to – if something causes your computer to "crash." However, we

still think it's a good idea to **save** your **PowerPoint presentation after each slide**. So we'll remind you to do this.

Other Slide Views

The **area running down the left side of the screen**, which contained "**little**" **views** of your slides, is called **Normal View**. This is the "default" view for PowerPoint.

In the **lower right corner** of the screen you will see some "**buttons**" that look like the image on the right:

This is the **PowerPoint View Toolbar**.

Slowly point (move) your cursor arrow over each button and **pause** a **moment** (***don't click***-on any of them yet). Note what the Text Help boxes indicate. The first box (which looks "depressed") indicates: **Normal View**. The next: **Slide Sorter View**. Then, **Slide Show**.

To the **right** of the buttons, you will see a **Zoom area** that will allow you to Zoom in or out to enlarge or decrease the size of your slides.

Each button has its own unique use.

The **Normal View** gives you a view of the **entire slide** as well as the "mini-previews" of each slide in the area on the left. This is the one we have been using so far.

You'll also **notice** a **Click to add notes** section at the **bottom** of the Normal View **screen**. In this area you can type "speaker notes" for each slide in the lower portion of the screen. When we cover printing, you will see that there is a print selection to print your speaker notes for each slide. Then, during your presentation, you can refer to your printed notes.

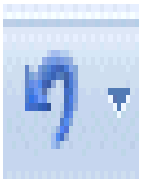
Click-on **Slide Sorter View.**

In **Slide Sorter** View you can see small images of each slide. **In this view** you can **left click**-on a **slide** and, while **holding down the left mouse button, drag your slide to any position in your show that you desire**. This view assists you in arranging your slides in the order that you desire for your presentation. This view is sort of like the old, round 35mm slide show trays where you pulled-out and stuck-in slides, in the order you desired.

The last button is **Slide Show.** Anytime you want to view your presentation, click-on this button. If you click on it now, you will see how the slide, on which you are working, will look. Give it a try if you desire. When you are finished looking at your slide, tap the **Esc button/key** in the **top-left** part of your **Keyboard**. This will take you back to the View in which you were working.

Click Normal **View** to return to your slide creation area. We'll work with Slide Sorter View a bit later.

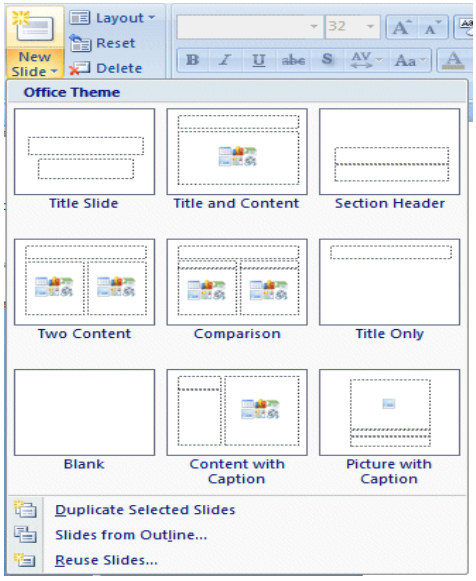
The Undo Button



One of the really handy "things" about most Microsoft programs is the **Undo** Button (it looks like the image on the right). If you make a mistake – no need to panic – click the **Undo** button and this will remove your mistake. Then you can try again. The Undo Button is found in the Quick Access Toolbar on the top left of the screen. Each time you click the Undo button, PowerPoint will "go back" one change. If you "click too far, there is a "Redo button" that will "undo the **undo**." They are both very handy when you need them.

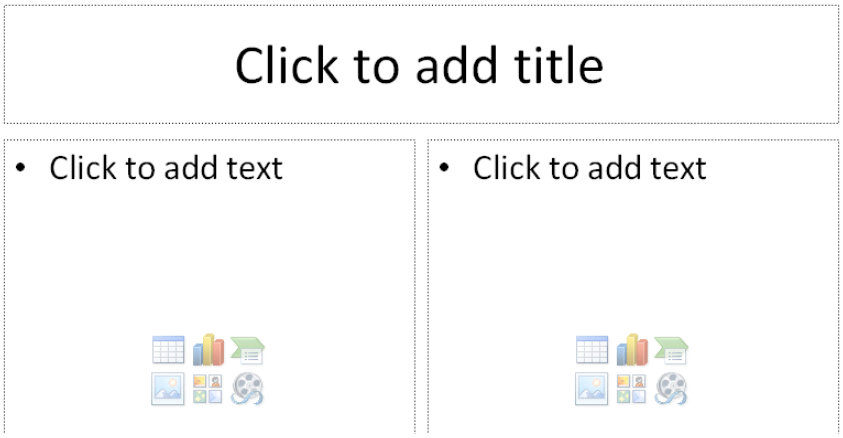
3.3.2.3. Slide 3

Click the **down arrow** in the **lower right corner** of the **New Slide button** once again**.**



When the New Slide choices menu screen appears, **click** the **Two Content** Slide.

Your **screen** should **look like** the **image below**.



You may use the two lower boxes for either Text or Content.

Click in the **top text box - Click to add title -** and type: **Tools Needed**

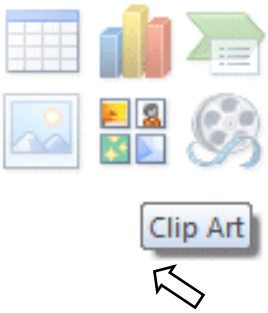
Click in the **left Text or Content Box** - **• Click to add text** and type:

Knife **(tap** Enter**)**

Spoon (tap **Enter**)

Plate (tap **Enter**)

Glass



Right Text or Content Box

Notice the **small images** in the **right Text or Content Box** of the new **slide**. There are **six "tiny" icons in this area** that will allow you insert a Table, Chart, SmartArt, Picture, Clip Art or Media Clip. For this slide we want to insert a C**lip Art image** in this area. So, **carefully**, **move your cursor over the tiny image in the center of the bottom row** (see **arrow above**). When you do, the box will be highlighted and you'll **see** a small **text help box appear** which indicates – **Clip Art**.

Click-on the **Clip Art image** (**arrow above**). An **image similar** to the one on the **left** will appear.

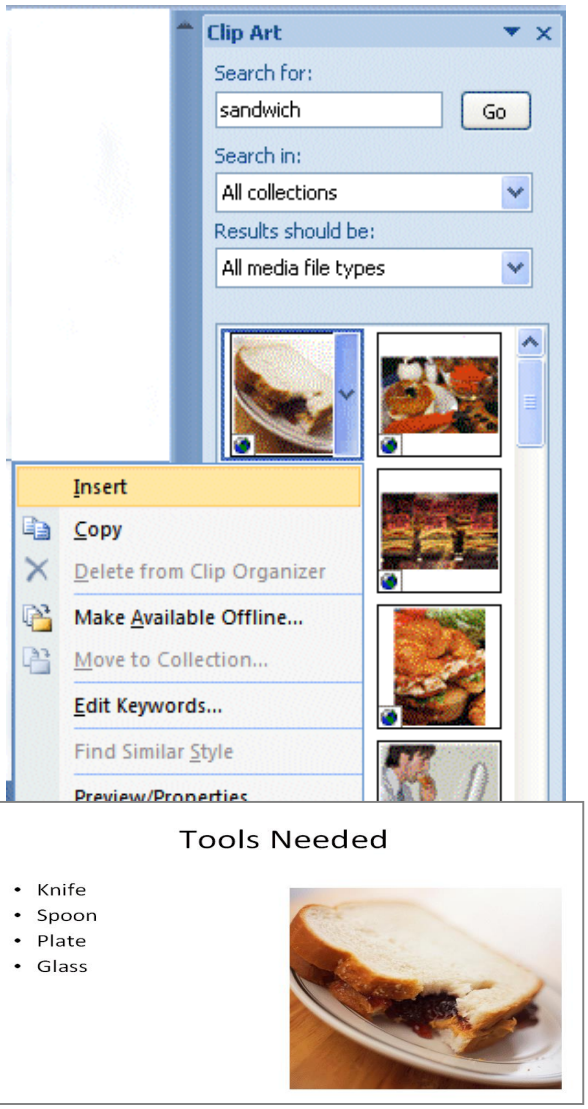
Since our presentation tells how to make a peanut butter and jelly sandwich, we **typed sandwich** in the **Search for: box**. Then we **clicked** the **Go** button (**see left arrows above**). A **Microsoft Clip Art** Task Pane then **appeared** as you see on the **left**.

Notice that there are **a lot of sandwich clip art images** available. You can **"run down" the choices** by **using** the **"elevator bar"** on the **right side** of the Clip Art Task Pane.

Move up and down the selections until you **find one you like**. Don't worry that there aren't many selections that look just like

what you want. We'll show you how to find a lot more clip art as we go through this tutorial.

We **moved down** the selections until our Clip Art menu screen **looked like** the one on the **right**. We **chose** the **"sandwich" on the right**. You find an image you like. We then **moved** our **cursor over** the **RIGHT EDGE** of the **image** we chose and **a blue selection bar with a "V"** appeared. We **clicked** the **blue bar** and the **image** and **drop down menu** you see on the **right appeared**. We **moved our cursor over Insert** and **clicked**.



The menu will disappear and you will see the image you selected on the right side of your slide.

Note: if your **clip art selection does not appear**, and you receive an **error message**, please **read** on **below** (where an explanation is given).

Slide 3 should look similar to the image on the right.

Don't forget to save your work!

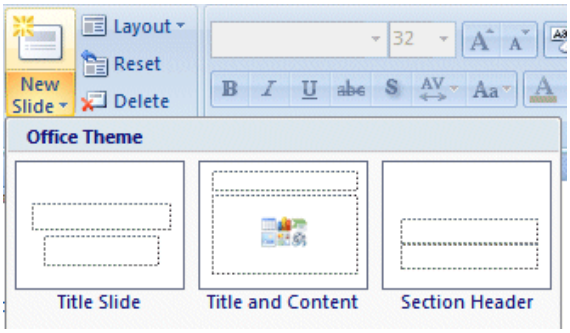
Closing the Clip Art Task Pane

Before we go to Slide 4, we'll **close** the **Clip Art Task Pane** on the **right side of the screen**. This will give us more room in the center to work on the next slides.

To **close** the **Clip Art Task Pane**, **click** the **small "X" in the upper right corner** of the Task Pane (**image** above on **right**). You will see the Task Pane disappear.

3.3.2.4. Slide 4

Click the **down arrow** in the **lower right corner** of the **New Slide button** once again**.**



Slide 4 will be another **Title and Content** slide. **Click** the **Title and Content image** in the New Slide menu screen.

Click on the top Click to add title box and type: Directions

Click on the bottom • Click to add text box and type:

Open jars of peanut butter and jam (tap Enter)

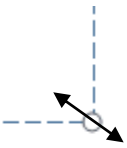
Spread peanut butter on one slice of bread with a knife (tap Enter)

Use a spoon to get jam and spread it on the other slice of bread (tap Enter)

Put two slices together and cut the sandwich in half (tap Enter)

Put the sandwich on a plate (tap Enter)

Pour a glass of milk (tap Enter)

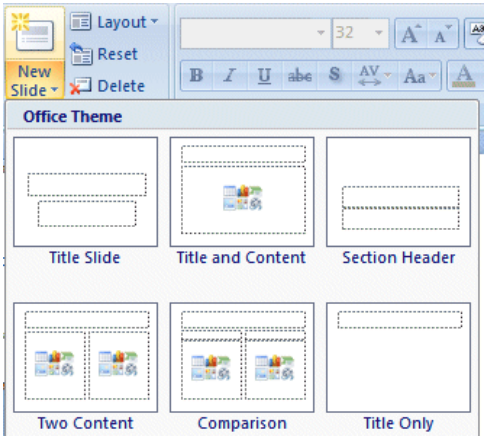


If your text won't fit in the box completely, click the box and a border will appear around the box. You will notice "little circles" at the four corners and in the middle of the top and bottom, and on each side of you text box. Point to either the center top or center bottom circle. Your cursor will change to a two headed small arrow like the one on the right. Click-on either circle and hold down the left mouse button and drag the top circle up, or the bottom circle down to enlarge the text area so that text fits on the screen. If your "Directions" are now "mixed-in" with the bulleted text below, click-on Directions. Then click-on the "edge" of the "box" (a small up-down-left-right arrow will appear – like the one on the right), hold down the left mouse button, and drag the box up a bit.

Time to save your work!

3.3.2.5. Slide 5

Click the **down arrow** in the **lower right corner** of the **New Slide button** once again**.**



We'll use the **Title and Content** slide again.

Click this slide.

Your **Slide 5** screen should **look like** the **top of Page 5**.

Click the **Click to Add title Text box** at the **top** and type:
Occasions for Eating PBJ's

Click the • **Click to add text Textbox** at the **bottom** and type:

School lunches (tap Enter)

Birthday parties (tap Enter)

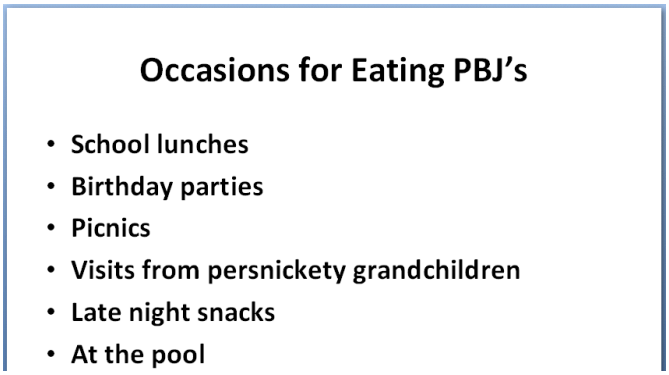
Picnics (tap Enter)

Visits from persnickety grandchildren (tap Enter)

Late night snacks (tap Enter)

At the pool

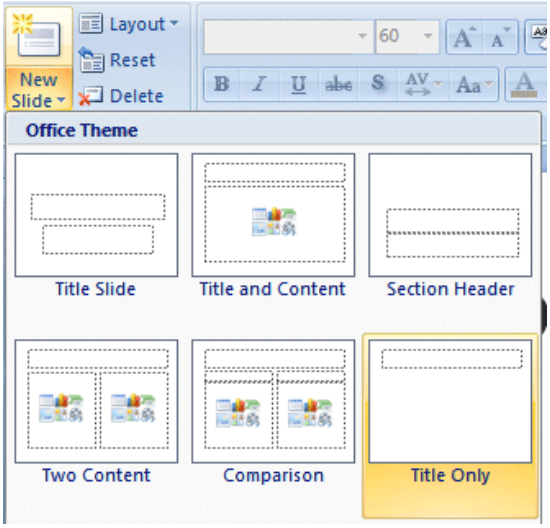
Slide 5 should look similar to the image on the right.



Save your work!

3.3.2.6. Slide 6

Click the **down arrow** in the **lower right corner** of the **New Slide button** once again**.**



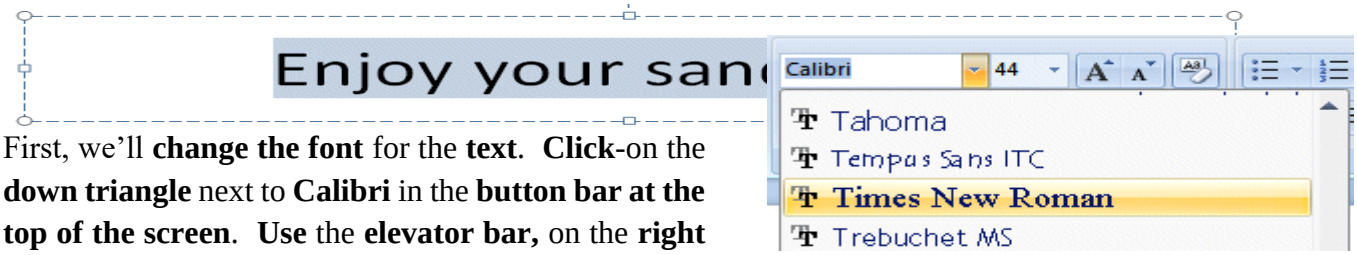
Slide 6 will be a **Title Only** slide.

Click the **Title Only image** in the New Slide menu screen.

Click on the **top** **Click to add title** box and **type**:

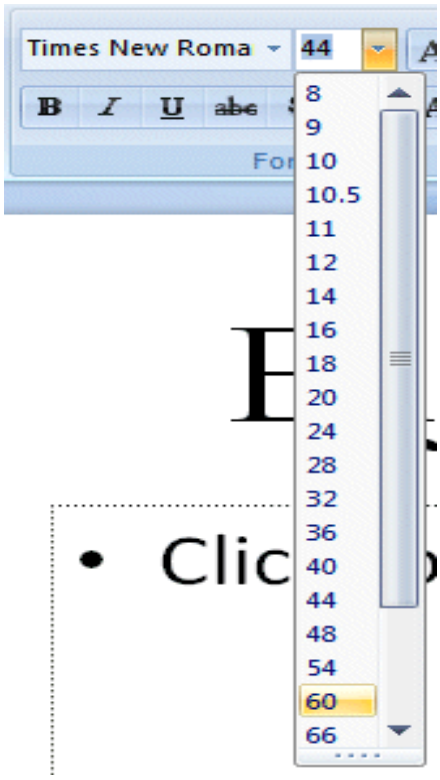
Enjoy your sandwich!

Now, let's **make** the **letters larger**. **Highlight** your title (**Enjoy your sandwich!**) **Place** your **cursor** at the **beginning of the first word**, **click and hold down** the **left** mouse button and **drag** your cursor **across the words**, then **release** the **left** button. The **Title** should be **highlighted** and **looks like** the **image below**. Since you are "really" in Microsoft Word when you are working with text in PowerPoint 2007, you can **also place your cursor on Enjoy your sandwich!** and quickly **click the left mouse button <u>three</u> times** and you will notice that the phrase is highlighted.



First, we'll **change the font** for the **text**. **Click**-on the **down triangle** next to **Calibri** in the **button bar at the top of the screen**. **Use** the **elevator bar,** on the **right of the font screen** that appears, and **move down** and **select Times New Roman** (see **image** and **arrows** at **right**).

Next, place your **cursor** on the **small down triangle next to the number in the ribbon bar** (when your cursor is on the number, the Text Help box will **indicate Font Size – see the image and arrow on the right**). **Click** on the **down triangle** and **scroll** down to **60** and **click on 60**. You text should **now be larger** than before.



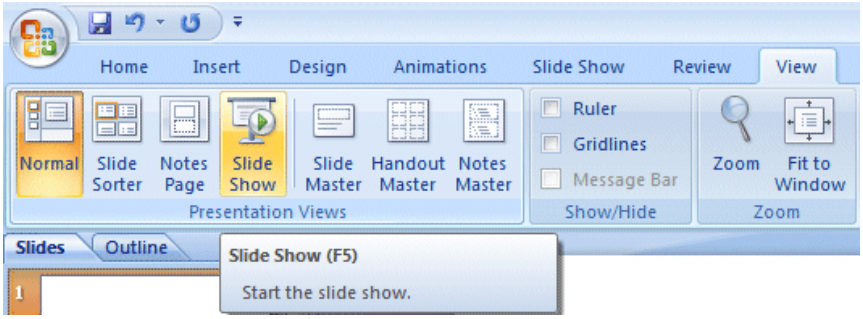
One of the **neat new features** of PowerPoint 2007 – that you might have noticed – as you were **moving your cursor down** the **Fonts**, and then the **Font Sizes** – was that **the highlighted text "changed"** to the **Font** or **Font Size** over which your **cursor was located**.

If you **did not see this**, **repeat** the **above** Font type and size change again. This time, slowly move your cursor over the Fonts and watch the change, and then over the size and watch the change. Awesome!

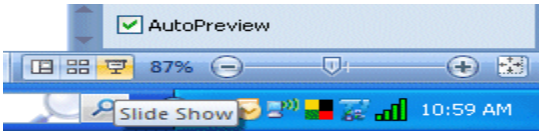
Viewing your Slide Show

You have just completed the first stage of your presentation. **Go back to Slide 1**. You can **do this** by **using** the "**elevator bar**" on the left **edge of your screen**. If you **click** at the **top** of the **elevator bar** you will **keep moving up** until you come to your first slide. **Click-on Slide 1**. It will **indicate Slide 1 of 7** in the **status area** in the **lower left corner** of your screen. You should recognize this slide as your first slide on How to make a Great PBJ.

To **view how your slide show will look** when you **project** it onto a screen or monitor, **click** the **View Tab** then **click** the **Slide Show** button (like the **image on the right**).



Or, you can **click** the small **Slide Show Screen** button in the **button bar at the lower right of the screen**.



There are **several ways** to **advance through** your **slide show**. You can **tap** the **space bar, tap** the **Enter key, tap** the **right arrow key,** or **click** the **left mouse button** to **move forward** from one slide to the next (during the show). When you **get to the end** of the "show" the presentation will **return** to your **slides**. **Anytime you want to end** the show, simply tap the **Esc** key in the **upper left corner** of the **keyboard** or **click** the **right** mouse button and **click** on **End Show** in the pop-up menu that appears. If you **end your show "early**" you will **be on the slide** you were **viewing** when you tapped Esc or clicked-on End Show.

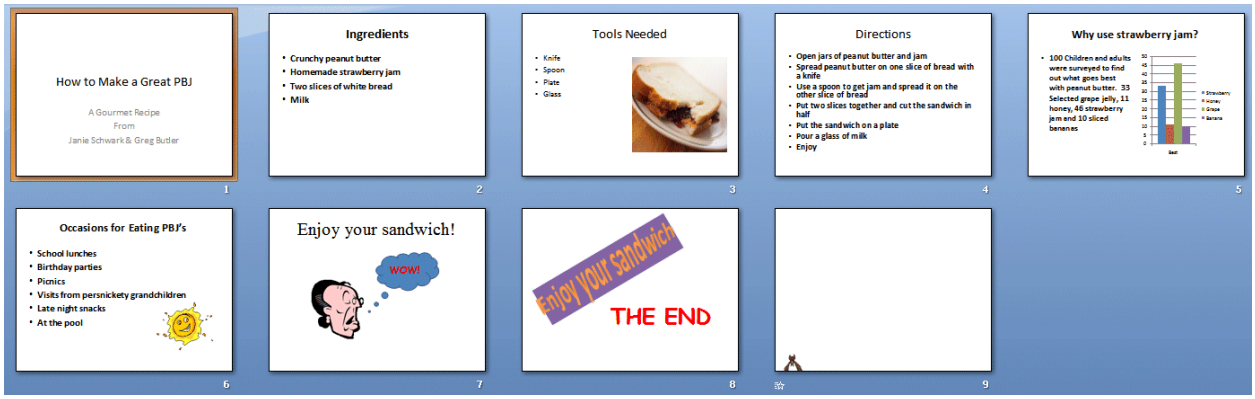
To "**go backward,**" to a previous slide in your show, you can **tap** the **Backspace key**, or the **left arrow key**. **If you are using the mouse** to "**click**" through your presentation and **desire to go back**, **click** the **RIGHT mouse button** and you will **see** a **menu screen** appear that allows you to choose a **Previous** slide or **Go** to any slide.

Transitions:

Now we'll **add some pizzazz** to our presentation. When you viewed your slide show, a few moments ago, it was like "flopping down" plastic transparencies on an overhead projector." Nothing really fantastic. Now we'll add some motion, animation, sound, and color and really make our presentation something to view.

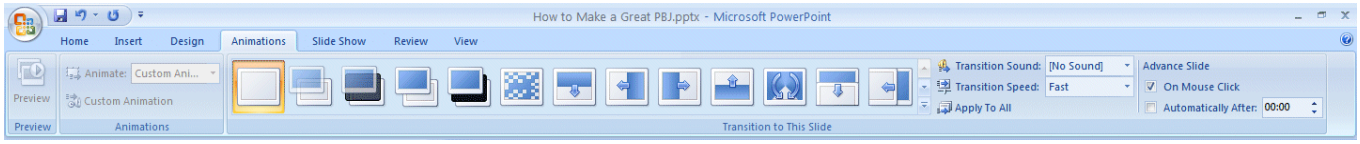
Go to the **Slide Sorter** button at the **bottom right** area of your screen. **Click** on the **button** with **four white squares**.

You can **now see all seven slides** (as shown **below**). **Lightly, click once** on the **first** slide **to highlight** the slide (an **orange border** will surround the slide – **see arrow below**). Now point in the **MIDDLE** of **Slide 1** and **click** on your **RIGHT** mouse button.



If you accidentally quick twice on Slide 1, this will take you to the Slide View, again. If this happens, simply click on the Slide Sorter View button at the bottom of the screen, just like you did on the last page.

With Slide 1 "marked," click the Animations Tab. The Animations Ribbon will again open.

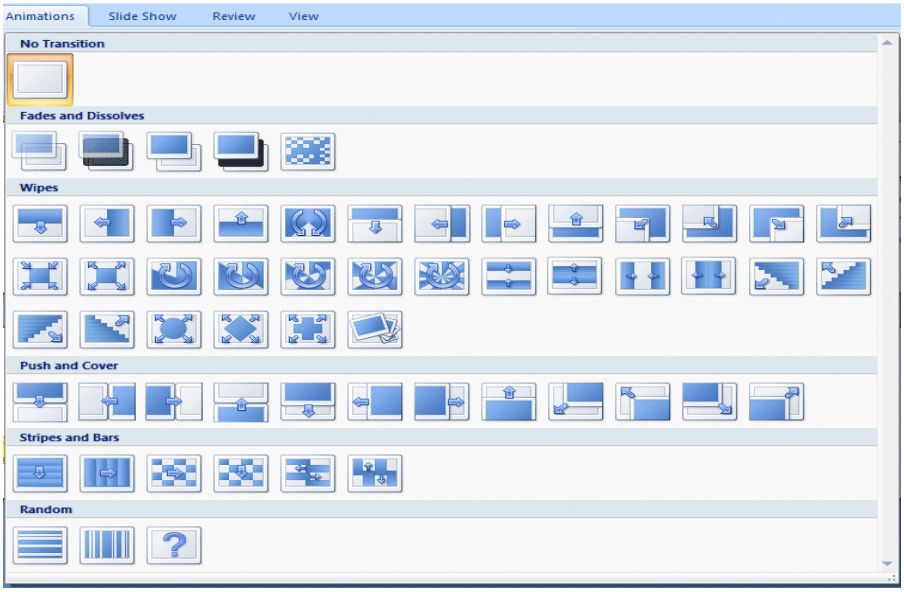


For previous PowerPoint users, this is another "totally new" method.

Notice in - the Animations Ribbon a Group – **Transition to This Slide**.

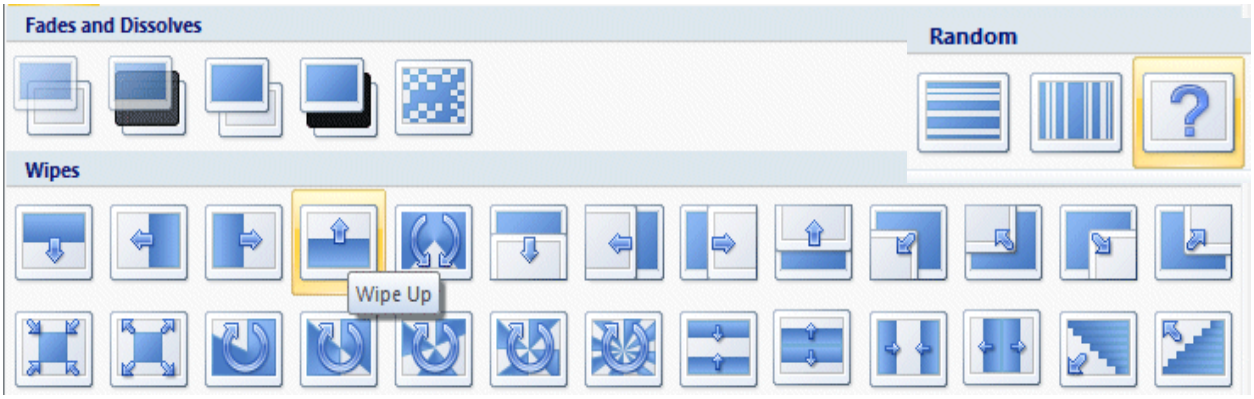
Transitions are neat, visual actions, as we move from slide to slide in our show. To get a "feel" for what Transitions do, **click** the **More Arrow** in the **lower right corner** of the **Transition to This Slide Group**.

A Transition selection screen similar to the image on the right will appear.



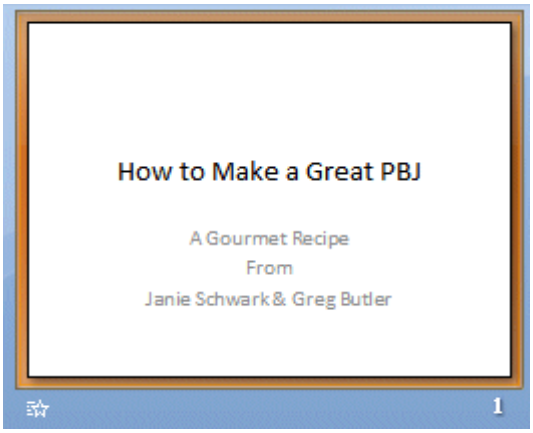
So, let's get started in **creating** some **movement (transitions)** as we **enhance** our PowerPoint **slide show**. Remember that we clicked-on Slide 1 to begin this process.

We have enlarged the Fades and Dissolves and Wipes sections of the Transitions image on the last page. We moved our cursor over Wipe Up and clicked on it. Immediately our Slide 1 Transitioned with a Wipe Up.

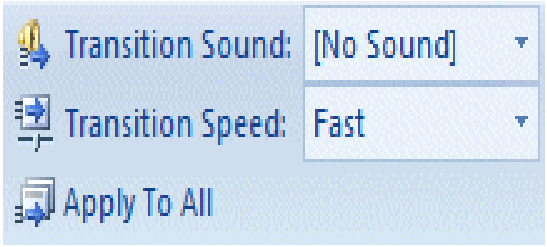


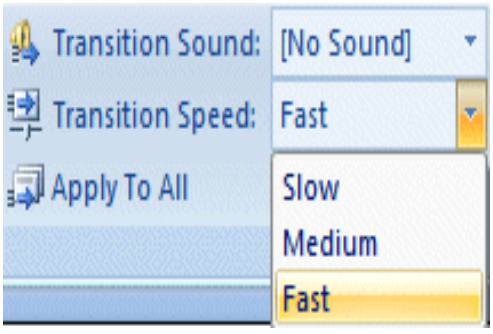
At the **bottom** of the **Transition to This Slide** Group there is a **Random** area. One of the choices has a **Question Mark (?).** We **chose this selection** and then **chose Apply to All Slides**. So, when we show our slides, each slide will **transition** with a **different effect.**

Go ahead and try as many Slide Transitions as you desire. When you have one you like, **look** at the **lower left corner** of **Slide 1**. You will **see** a **small "shooting" star**. This means that a transition has been applied to this slide. If you **click** the **star**, you will see the transition you selected will **Play** again.



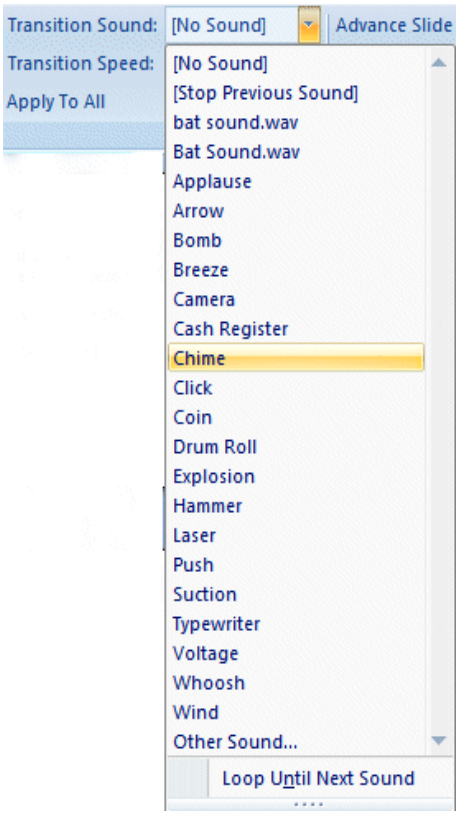
You can **repeat** the above process by **clicking** on **each slide** and selecting a different transition for each slide. Or – **Notice -** on the **right** side of the **Transition to This Slide Group** – you can select Apply to All. And the transition you choose will be applied to all of your slides. It's up to you on how you want each slide to transition – or not transition.





Also **notice** that there is a **Transition Speed** selection in this same area. You may change your transition from **Fast** to Medium or **Slow**.

You may also add a **Sound** to your transition. Click the small down arrow to the right of Transition Sound. A drop down list of sounds will appear. We chose Chime for our Slide 1 Transition.

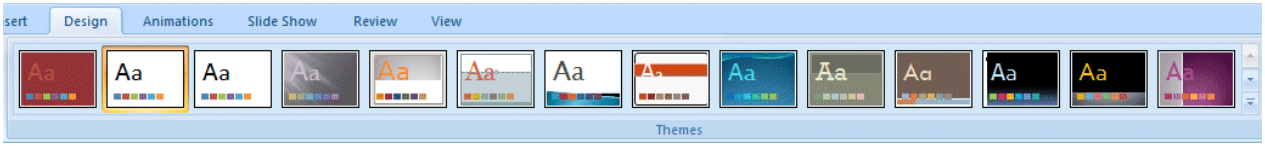


Don't forget to save your work

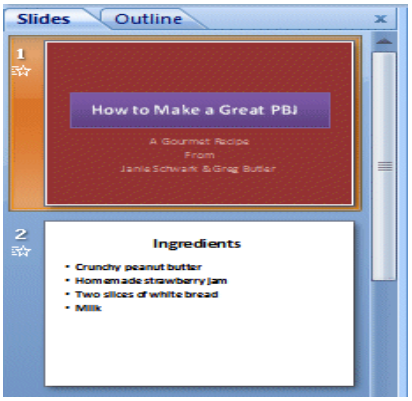
3.3.2.7. Themes

Finally, we'll apply **Themes** to our slides.

For those who are familiar with previous versions of PowerPoint, Themes are similar to the Design Templates. For those using PowerPoint for the first time we'll show you how to use Design Templates on individual slides, or on all of the slides in your presentation. If you are not on the Design Tab/Ribbon, **click** the **Design Tab**. You will see the **Themes Group**.



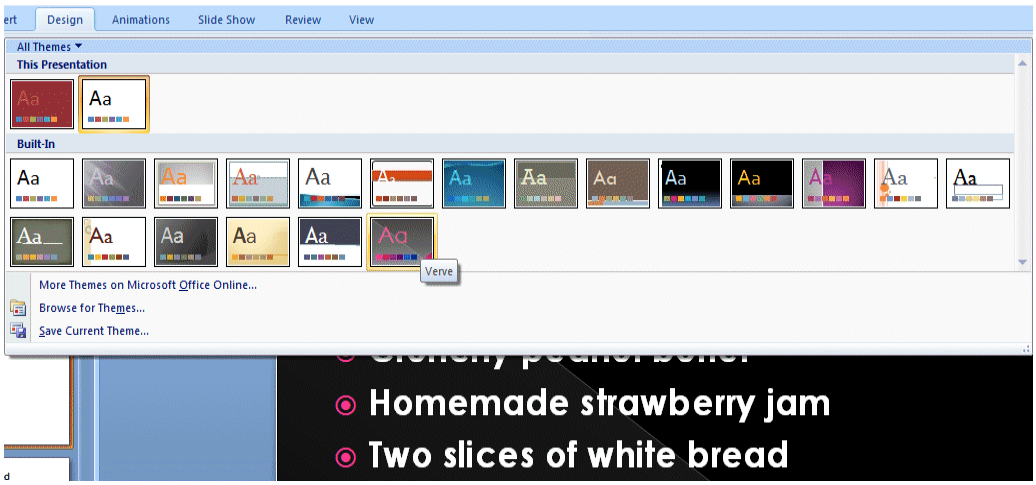
We "**cleared**" our Slide 2 (using the **Undo Arrow**) so that the Slide 2, on the left of our screen, looks like the image on the right.



Once again, as we move our cursor over a Theme, we see that Slide 2 reflects our choice.

To **view additional Themes**, **click** the **More arrow** in the **lower right corner** of the **Themes Group.**

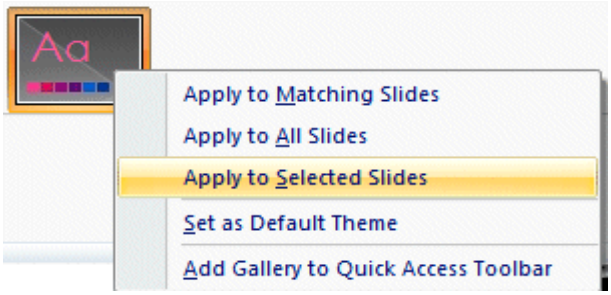
As you move your cursor over these additional Themes, you will see the Theme appear in Slide 2.



If you **click** a **Theme**, PowerPoint will **assume** you **desire to select this Theme for ALL** the **slides** in your presentation. We clicked on the Verve Theme you see on the left.

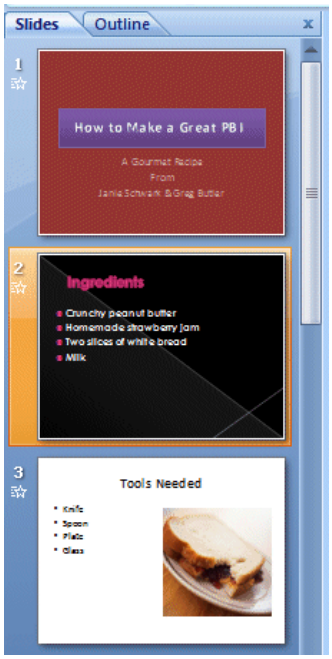
As you can see (in the image on the right) **all of the slides were changed** to the Verve theme – **except Slide 1**. Since we indicated that Slide 1 should use a Color Scheme, it remained unchanged.

If this is not what you desire, click the Undo Arrow and begin again.



If want a **different Theme** for **different slides**, **click** on a **slide**, then **move your cursor over the theme you desire** and **click** the **RIGHT** mouse button. The **pop-up menu** on the **left** will appear. **Choose Apply to Selected Slides**.

We **clicked Slide 2** and followed the instructions above. Our Slide 2 now looks like the image on the right. Notice that Slide 3 remains the same.



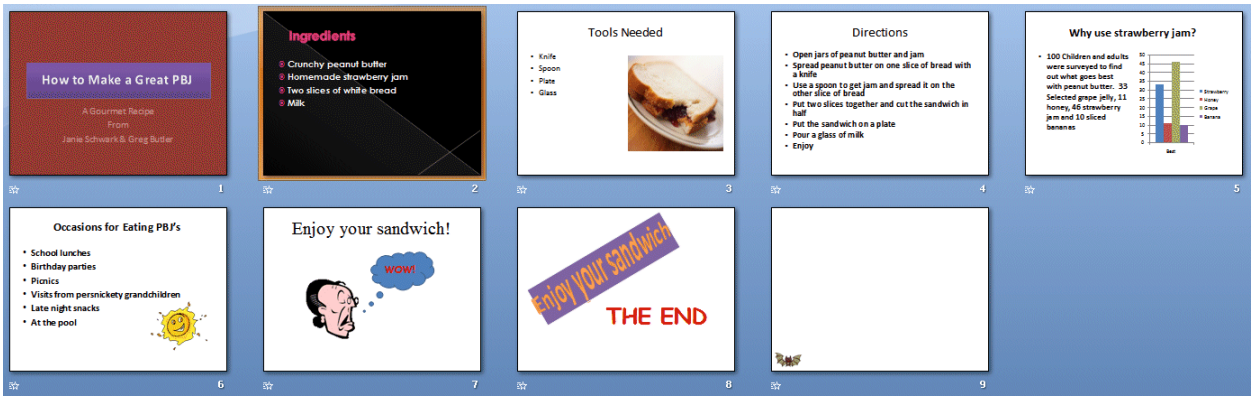
Many PowerPoint users desire to have a single theme or color scheme for their presentations.

It might be wise to check with folks who know your audience before you create a lot of different slides with animations and sounds to make sure you know what they desire.

You can choose the view you like best when you are applying Color Schemes and Themes. We used the Normal View above. Many users like to use the Slide Sorter View as they select their choices – so they can see all of their slides.

To **change your view to Slide Sorter View** (like we did no Page 8), look at the **lower right corner of your screen and click on the Slide Sorter button.**

When we clicked the Slide Sorter View button, our screen looked like the image below.



We decided to have the same Theme for all of our slides, so we chose one we liked. Our Slide Sorter View now looks like the image below.

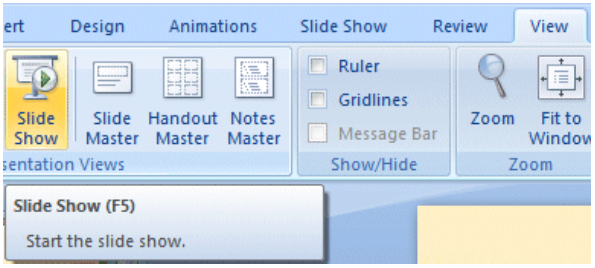
You choose a Color Scheme, Theme or combination that you like for your slides.

Notice that **when** the **Theme** was **applied** that, in addition to the background changing, the **text, formatting,** and **colors of some of your objects also changed**. In a minute we'll view our entire slide show again. **As you go through your show, you might want to make a note of color changes that do not enhance your presentation**. Most notably, when you choose **Dimming** for text, the **Dimming often is more noticeable than the text**. So, you might want to change your dimming color to work with your slide show.

Run the show:

Now you have a real presentation! Make sure you are on Slide # 1. Go to Slide # 1 either in Slide Sorter View or Normal View.

To **view** your show, you can click the View Tab and then click the Slide Show button.



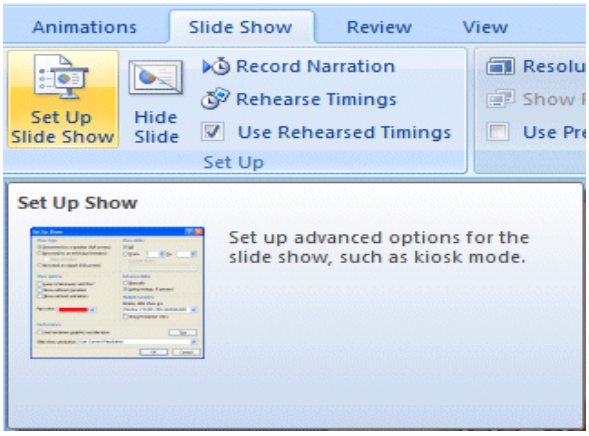
Or, you can just **click** on the **Slide Show button** at the **bottom** of the **screen** (on the **lower right**).

To advance (go **forward to the next slide** or **have text** or **graphics enter**), you can **tap** the **left mouse button**, **Space Bar, Right Arrow key** or **Enter** key. If you want to "go **back**" to a previous slide (or effect), **tap** either the **back arrow key** or the **Backspace** key on the keyboard. You can **also click** the **RIGHT mouse button** at **any time** and a **menu** will **appear** that will **assist you** to move between the slides.

If you desire to **end** the show, either tap the **Esc** key, in the **upper left portion of the keyboard**, or click the **right** mouse button and then **click End Show.**

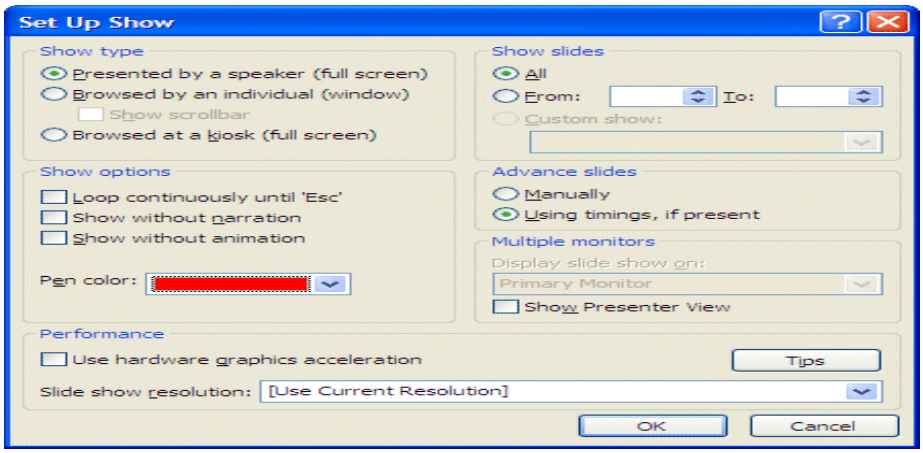
Practice moving through your slide show a number of times to get the "feel" of how PowerPoint 2007 works.

If you created **set times** on the **Animations Tab** for your slides (Pages 55-58), and desire to have the show **run** in "**automatic," click** the **Slide Show Tab** and then **click** the **Set Up Slide Show button.**



The following **Set Up Show** menu screen will **appear**.

In the **Advance slides** box (**image above**), click the **circular area** to the left of **Using timings, if present**. **Look over the other choices** in this menu screen. **Notice** that there are a **lot** of **enhancements** in this **Set Up Show** menu screen. **Experiment**, as you desire. **You can always come back and change them**. **Click** the **OK button** when you have made your changes. One thing people find **most helpful**, if they **desire to have the show repeat continuously**, is the **Loop continuously until 'Esc' selection**. This is **indicated** by an **arrow** to the **Show options** area.



3.4. Introduction to Internet

3.4.1. Introduction to Internet, WWW, and e-mail

The world network of networks, Internet, is considered an inexhaustible source of information. Just one of its services, the World Wide Web, offers more than 60 million pages with data in text form, images or sound. The management of this tool permits the user to know the latest advances about almost any subject that is taking place in the world. Nevertheless, it is essential to know what it offers and how to access its services. The objective of this manual is to facilitate the entry into this sea of information that is Internet; in it are described all the tools that it offers and some tips to speed up the information search within the Network.

3.4.2. Internet: network of networks

The computer network, Internet, was born in 1969. It was created by a group of researchers from the Defense Department of the United States to establish a communication system with other agencies of the Government. The fear that an attack could destroy all the information stored in the same place obliged them to avoid storing the information in one single central computer and, instead, store it in multiple interconnected computers. It is currently estimated that Internet groups 25,000 networks, that communicate among themselves through telephone line, fiber optics or via satellite.

Until the end of the eighties, Internet was mainly used by American researchers and academicians, but in the present decade, since it began to become popular among all kind of persons, it has grown at an unrestrained pace, which makes a census in Internet as impossible to carry out as counting the heads in a riot. Mindful of this, the Internet population can be anything between 10 to 100 million users approximately.

The Internet does not have a director to manage or control it. Neither does it belong to a private or governmental entity. The majority of its services and resources are offered on a free basis to its users.

3.4.3. World Wide Web

Generally, Internet is only associated with the World Wide Web, the most important section of the Network. But this is only one part. The entry of a web site is called "home page", while a group of pages is called a "site". In this site the user finds the information distributed in a way to link with other pages with related subjects. Said links are represented by word highlighted phrases, photographs or graphics. For example, if I were reading a home page with a text on bovines and I found the word "dairy cattle" highlighted, I could click once on the word in order to "jump" to a another www site with information on this subject (perhaps hosted in a computer at the other end of the world); and if within this new text I found the word "Holstein Friesian" highlighted, one click over it could take to a home page of a research society on this breed.

To navigate through the pages of www you use a computer program called the browser. Some of the most popular browsers are Netscape and Microsoft Internet Explorer. To reach a World Wide Web site it is indispensable to write down its address; in Internet it usually begins with http://, but you can also do it with http// or gopher.//. To open a page allocated in the hard disk of your computer you use an address like file:///d:/name-of-directory/name-of-file.htm.

In its pages you find information of all kinds. Companies, media, governmental entities, universities, museums, political parties, religious groups, research centers, virtual shopping centers and even individuals have their own presentation pages to promote their products, services and opinions. A few seconds are the only "distance" between the NASA site and the National University of Tokyo. In view of the fact the common language in www and in all the Internet in English, the user should have a fair knowledge of it to take advantage of the sea of information offered in the Net.

Notwithstanding, finding sites can be a tedious job unless you know how to manage the available tools of the Network to do so. There are two basic locations to find information in WWW: the search engines (robots) and the directories. Some of the first ones, like Altavista, are designed to search in computers that save network information (known as servers) and create indexes of the pages in them. The user writes a series of words and the search engines provides a list of pages that contain a list of described contents. On the other hand, directories like Yahoo organize the web pages in different categories. It is also possible to search through them, but they are more

restricted. While the search engines can come to list 50 million pages, the directories only list a part of them.

Another option to find information in the WWW are the multiple search engines like Dogpile and Search. These gather in one single page the best robots and directories available in the Network, in the opinion of its creator, allowing a quick research by not having to leave the site.

There are hundreds of search engines and directories in the Internet. If you want to find specific information, it is better to use the first ones. If you are looking for something very general, the directories are more recommendable. Some engines like El Inspector de Telepolis, Elcano, Donde, Encuentrelo, Ole, Ozu, Fant sticos and Cambios provide information only in Spanish.

Note: The Net also provides other services like WAIS, Telnet, Veronica, Gopher, Usenet, Archie and FTP. Nevertheless, it is frequent for a user to find the same information and in a less complicated way through the web pages. That is why these tools have become outdated.

3.4.3.1. How to find information in the WWW

All the search engines are a little complicated to use for the first time. Their individual values will only start to appear after a little bit of experience acquired through usage. Each one employs different techniques and programs to accumulate information. Therefore, before starting a search in any of them for the first time, always read your restrictions.

Adopt one of the following strategies based on what you know of your search:

- **Do you know which general topic is related to the information?**

You can use one of the directories like Yahoo and follow the links of each page with the site that you feel may lead to the information.

- **Do you know a specific name or title?** Use one of the search engines that searches through titles and keywords like AltaVista.
- **Do you know one or more qualities and characteristics?** This strategy frequently requires various search and evaluation sessions. Some additional information, like the author, geographic location, related organizations, story, etc., may be used to find a specific reference.

- **Use different words for the search.** The extremely common words, such as articles and prepositions contribute very little to the search and are completely ignored. Nevertheless, upon combining common words with logical operators the results may be more promising.
- **Understand the results of the search**. The form by which the information has been grouped in one of the engines or directories can dramatically affect the search process. One word or phrase can work marvelously in one and poorly in another. Try to understand the relation of the keywords and the results. When your search does not produce any entry, check the following:
    - ✓ Be sure to have understood the description, options, rules and restrictions of the tools you are using.
    - ✓ Make sure that the spelling is correct.
    - ✓ If you used logical operators, revise your syntax.
    - ✓ Try to be less specific in your question.
    - ✓ Use synonyms and a variation of the words.
    - ✓ Go on to another search engine.
    - ✓ Your search produces too many entries.
    - ✓ Be more specific in your request.
    - ✓ Identify and use the common words that may be important Problems with the server. The server can return an error message (or simply not allow you to connect) if it is busy or temporarily down.
- **Error 404, page/file not found:** There are various reasons due to which this can happen. Maybe the link doesn't exist, that the URL address of the page has been modified or that simply the command is not valid. Check the capital letters and the small letters. The URL addresses are partially sensitive to these. In the first part they are not so but in all the rest yes.
- **No answer, Time out, Too busy.** These are the three types of problems that you can most find. If it happens to you, try again after a few minutes, wait to work during the less congested hours of the day or check the server location. If the server is far from your station the response may be low in contrast to that of a local server.
- **What to do with the information that you find.**

The user has three options to use the information found in the Net:

- ✓ **Read it directly in the computer screen.** If you can satisfy your curiosity with a simple glance over.
- ✓ **Save it in your hard disk or in a diskette**. To carry out this operation the user has to use the command "save as" from the file option of the main menu. If the document is already open, place the cursor on the selected link, sound or image and click on the right button of the mouse, on the command "save image as", if you want to save it without opening it.
- ✓ Next, choose the format and the location in the hard disk or diskette where you want to save this file. If the format chosen was originally an HTML file, you can see it without the need of being connected to the server, using the normal menu option file/open. If the selection was a normal text, the file will only contain text (instructions for Netscape users).

3.4.4. Electronic mail or e-mail

The electronic mail, or e-mail is a utility that allows the sending or receiving of messages to any network users around the world. The advantages of e-mail over normal mail or telephone calls are enormous.

The speed of the transmission is one of them; unlike conventional paper letter that can take several days, and e-mail messages sent through Internet arrives in a few minutes. Its low cost is another of its attributes, in contrast to the high price of long distances international calls, an Internet user can send all the messages he wants to any part of the world without paying extra money for it (he only pays the Internet Access Provider for the connection time to the Network). A last quality of the email is that of being an asynchronous device, which means that it does not require the simultaneous intervention of sender and receiver; the former sends it whenever he considers is necessary and the latter reads it when he can.

To send a message you need a program like Netscape, one of the most popular programs, or any other browser that you are using. The e-mail needs an source address and a destination address, which can read something like webmaster@congreso.gob.pe. In this case "webmaster" refers to the name of the user, "congreso" is the name of the system or dominion where he holds his account. "gob" means that the provider is a governmental enterprise (universities and educational institutions have the extension "edu", military institution the extension "mil", a govern the

extension "gob", non-profit organizations the extension "org" and Network links the ending of "net") and "pe", that corresponds to Peru.

For the greater part you can identify the country where the address is located through the last extension, which in the case of Peru is "pe". With the idea of solving legal problems using brands the Ad-Hoc International Internet Committee approved the addition of seven new dominions: .web, .store, .info, .firm, .arts, .rec and .nom, for personal use.

An e-mail message is made up of the following parts:

- ✓ **From**:- Address of the person or entity who sends the message. Automatically generated by the system.
- ✓ **To**:- Address of the person to whom the e-mail is being sent.
- ✓ **Subject**:- Subject of the message.
- ✓ **Date**:- Date and hour of dispatch. Automatically generated by the system.
- ✓ **CC** (carbon copy):- Address of the person to whom you wish to send a copy of the message.
- ✓ **Attachments**:- Allows to attach the message to a computer file like, for example, a report, an article, graphics, software or web page.
- ✓ **Contents**:- Body of the message.

3.4.4.1. Mailing lists

The mailing lists are discussion groups whose participants share information and opinions through the Internet e-mail. The interested users can participate in subjects like technology, music, religion, politics, medicine, literature, business, etc.

When a person registers in a list and fills in a form with some required data, he receives a welcoming message which explains the rules of the game of this discussion group; from this moment onwards he receives all the messages sent by the group members. Likewise, the person can send general messages. For this, he must send an e-mail message to the list address; once it gets there, a computer program automatically generates a copy for each group member. Somebody who reads this note can answer either with a general or a private message.

In order to register in a mailing list you shall send a message to the manager of the list (using an e-mail program). This message only has one short phrase which is usually "subscribe (name of

list)". There are several indexes which allow the user to consult the internet discussion group list; or he can use search help to find groups for a specific subject.

To go to these indexes use the browser that you use to navigate through the WWW; here you find a description of the mailing list and instructions to register. In WWW it's recommendable to visit Liszt and Tile Net List. If the user wants to receive any of the existing lists he can send an e-mail to listserv@listserv.net and in the contents write global list Coollist is a site that permits the user to create his own mailing list for free. Before filling in the corresponding application form it is recommendable to read the FAQ (Frequently Asked Questions), in order to clarify doubts.

3.4.4.2. Newsgroups

The mailing lists make sense as long as they are not too big. When there are too many persons and a heavy data traffic it is not practical to send an e-mail message to every list member; in this case the ideal are the Internet Newsgroups (Usenet Newsgroups).

The newsgroups are also discussion groups in which people interested in the same subjects participate. The difference between the mailing list and the newsgroups is that the persons send messages to a public bulletin board, that can be consulted by each group member as desired.

Is like a company newsletter, a bulletin board in which all employees can put information and consult (which is much more practical than sending letters to each employee).

To use the service, the Internet Access Provider should have a news server, whose address will be taken into account when the browser is configured to use the service (if you don't know the name the provider will give it to you.) You can consult a newsgroup index in Deja News.

The program used to read the newsgroup articles (and to put information) is a news reader. Some browsers, like Netscape Navigator 2.0 and its next version, include it.

3.5. Computer crime and abuse

Computer crime ranges from the use of information technology to commit an act that would be criminal no matter how committed to activities more specifically to computers, such as theft of computer services and computer abuse refers to acts that are legal but unethical.

3.5.1. Computer viruses

A computer virus is a self replicating/ copying computer program that interferes with a computer's hardware or operating system and duplicates itself without the user's knowledge.

A computer virus is asset of illicit instruction implemented within a program that passes itself on to other programs with which it comes in contact. It is means of causes of disaster on a computer system. It may damage, corrupt/destroy data or degrade system performance.

Classification of computer viruses

1. **File viruses:** file infecting viruses search out executable files located don a disk or hard drive and physically attach themselves. When the files run, the virus is activated, often infecting other files in the process.

2. **Memory resident viruses**: these viruses attach themselves to executable files, but when the file runs, load themselves into memory where they stay as long as the computer is on. While in memory they spread the infection to other files.

3. **Boot sector viruses:** these are sometimes called partition table viruses. They attach the boot sector of a floppy disk or the master boot record on a hard drive (which hold instructions that get your computer's operating system up and running). The copy of the code contained therein to another location on the disk (often destroying data there) and then replaces the original code. Start up appears to proceed normally, but in fact, the virus is loaded into memory before the operating system. Once the viruses reside in memory, it is usually programmed to infect other files whenever it can.

4. **Stealth viruses**: a computer virus that actively hides itself from antivirus software by either masking the size of the file that it hides in or temporary removing itself from the infected file and place a copy of itself in another location on the drive, replacing the infected file with an uninfected one that it has stored on the hard drive. These are

viruses that mask themselves by subtracting their own size from the file size before attaching themselves.

5. Polymorphic viruses: A type of computer virus that has the capability of changing its own code, allowing the virus to have hundreds/thousands of d/t variants, making it much more difficult to notice/detect.

Polymorphic viruses mutate and change form as they replicate. Virus mutation engines such as DAME (the dark avenger mutation engine) allow anyone who has created virus to turn it into polymorphic one.

All virus take up some of your RAM and hard disk space and many slow down the performance of your system.

Unit summary

This unit deals about computer software package, the application software which is the end user software. The programs written under application software are designed for general purpose and special purpose applications. An example of application software is Microsoft office which include Microsoft office word, spreadsheet and presentation or power point software's.

Word processing software is used for creating documents. Drafts, letters, reports, essays, write-ups etc can be created using word processing software. Earlier, Word Star was being used widely for this purpose. Sidekick and Word Perfect are also used for drafting letters. However, the most commonly used word processing package in the world is Microsoft Word, which will be discussed later in this book.

Spreadsheet is a computer application that simulates a paper worksheet. It displays multiple cells that together, make up a grid consisting of rows and columns, each cell containing either alphanumeric text or numeric values. Spreadsheets are frequently used for financial information because of their ability to re-calculate the entire sheet automatically after a change to a single cell is made.

Microsoft PowerPoint is a presentation program developed by Microsoft. It is part of the Microsoft Office suite and runs on Microsoft Windows and Apple's Mac OS X computer operating systems. PowerPoint is widely used by business people, educators, students and trainers and is among the most prevalent forms of persuasive technology. Beginning with Microsoft Office 2003, Microsoft revised the branding to emphasize PowerPoint's place within the office suite, calling it Microsoft Office PowerPoint instead of just Microsoft PowerPoint. The

current versions are Microsoft Office PowerPoint 2007 for Windows and 2008 for Mac.

Additionally the chapter deals about what is internet and how to use internet to access different information's. Lastly what are the different things which affect our computers means computer viruses.

Review Questions

Power point

1. Write the process for the following and do it practically on **power point**

a. Uses of PowerPoint
b. Slide Layouts
c. Adding slides
d. Creating a presentation
e. Programming Concepts
f. Inserting a New Slide
g. Applying a Design Template
h. Viewing Slides in Slide Show View
i. Closing a Presentation and Exiting PowerPoint
j. To Add Text to a Placeholder
k. Deleting a Slide
l. Adding Text to an Original Slide
m. Inserting a Chart
n. Adding Transition
o. Inserting Clip Art into a Slide

Explain the following: excel
a. Title Bar
b. Menu Bar
c. Standard tool bar
d. Formatting toolbar
e. Name box
f. Scroll Bars
g. Status Bar

Excel

What are the components of an Excel

Workbook

write a note on:
a. Function method
b. Point method
c. Arrow key and anchor method
d. Mouse method
e. Auto sum method

Write the process for the following:
a. Retrieving Spreadsheets
b. Inserting Cells, Columns and Rows
c. Widening Columns
d. Copy pasting in spread sheet

Take any 10 numbers and do the following:
a. Subtraction, Multiplication, Division, sum, average, rank and grade

Word **Processing, do the following**

1. Use home menu to do the following things
   - ✓ Write the following sentence as it is

"Computer systems consists of hard ware component and software components"

- Copy the above sentence 5 times
- Make it bold, italic, size 16, color of text green
- Use symbol bullets of any you want
- Put the whole sentences in the borders

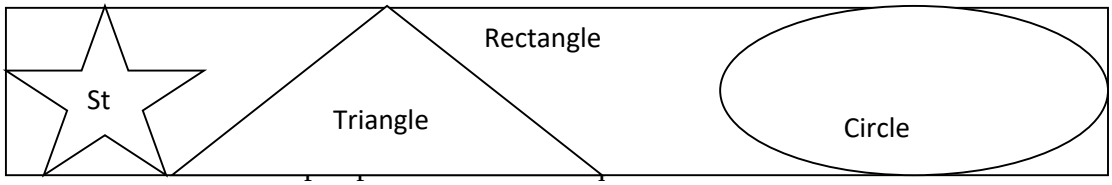
- ✓ Write the following formula as it is.
  - $3x^2+2x+2$

- H_2O, H_2SO_4

2. Use insert menu for the following question
   - ✓ Draw the following table

Computer systems						
Computer hard ware				Computer software		
Input	Output	Storage	Processor	System software	Application software	
Mouse	monitor	RAM		OS	MS-Office	

   - ✓ Draw pictures using paint and insert into word
   - ✓ Insert tiger clipart
   - ✓ Draw the following diagram using shape and change the color of rectangle into green, triangle with red and circle with yellow.



   - ✓ Use "**word processor**" as header and "**text processor**" as footer, add page number.
   - ✓ Design the following as it is.

Accounting Department
Introduction to ICT!!!!

3. Use page layout for the following
   - ✓ Put the sentence in the first question in three columns.
   - ✓ Use Water mark by your name for document background.
   - ✓ Use page borders for all pages.
   - ✓ Add comment at any place.

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