



Basic Computer Skills

Mouse, Keyboard, and Windows

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What is a Computer?

To put it simply, a computer is an electronic device that is designed to work with information.

The Computer...

1. Takes in information, then...
2. Processes the information, and then...
3. Displays the results.



In What Ways is a Computer Used?

Just view decades ago, working with a computer was very limited. The average person had no need to use this technology. Today, not only can the average person type letters using the computer, but we can...

- Send electronic mail (e-mail) to a friend in California. ~ No Stamp Required ~
- View and edit digital pictures on your computer.
- Listen to your favorite music on the internet.
- Watch the latest DVD release on your computer. “Please Pass the Popcorn”
- With the use of the internet and a web camera, talk and see someone from another country with the use of computer.
- Pay your bills online.
- The future provides endless possibilities...

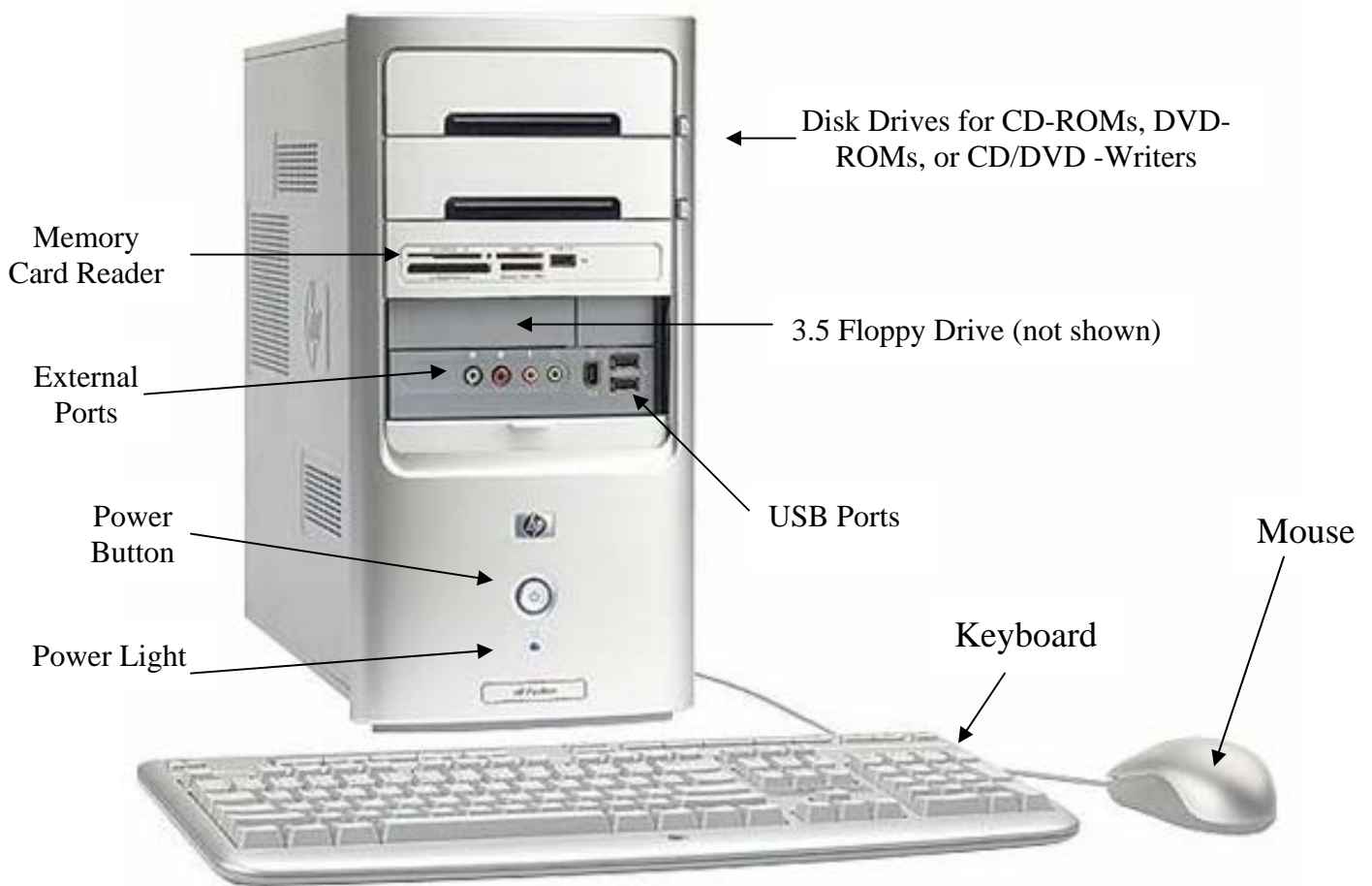
Do not let the Computer overwhelm you. With practice, using the computer will become second nature.

So let's get started...

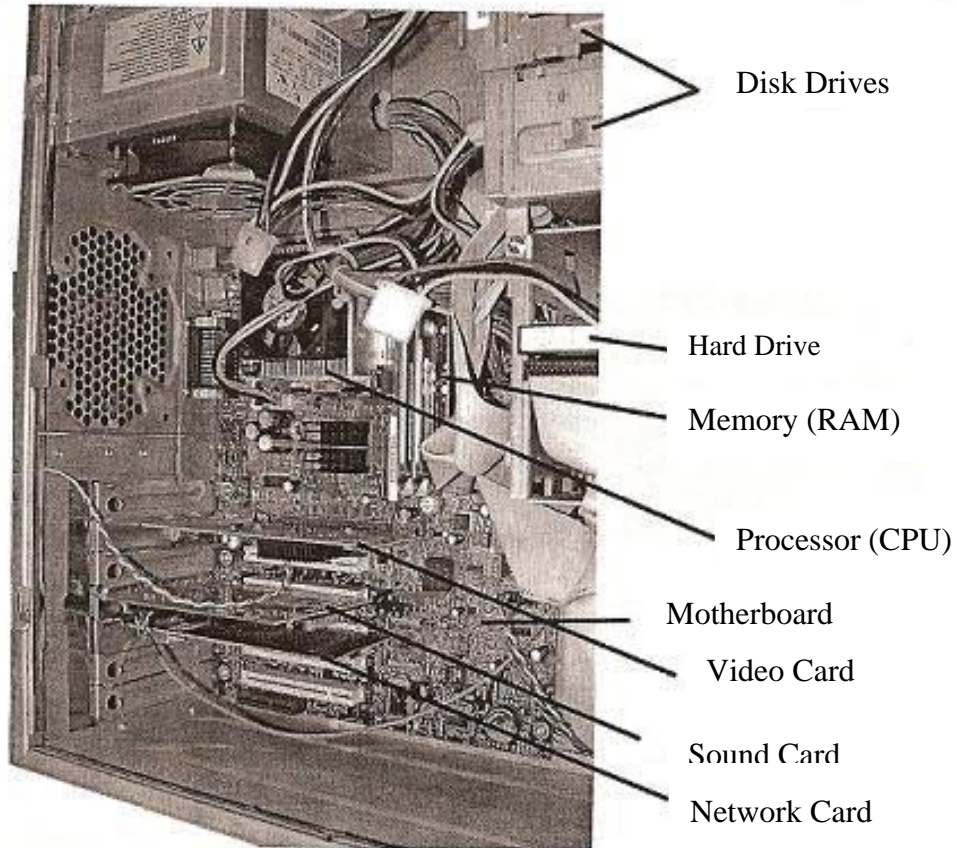
The computer shown below is called a Desktop PC. (PC stands for Personal Computer).

The **Hardware** of the computer are those components you see in front of you (and some that you can not see located inside the Computer Case): the **Keyboard**, the **Mouse**, the **Computer Case** (sometimes referred to as the Tower, the CPU, and often "the Computer"), and the **Monitor**.

Computer Case



Inside the Computer Casing (the Hardware you don't see.)



Computer Hardware Descriptions...

- **Monitor** (see picture on the next page) – looks like a television screen and it displays text, pictures, and other information.
- **Keyboard** – a typewriter-like device that allows you to enter information into the computer. (Learn more about the Keyboard on page 15.)
- **Mouse** – a hand operated device with a pointer shown on the monitor allowing you to select and move items on the screen. (Learn more about the Mouse on page 14.)

- **Computer Case** – holds the electronic chips and devices that make the computer work.
 - **Power button** – push this button to turn the computer on. Often the power button will light up indicating the computer is on.



- **Power light** – lets you know the computer is processing.
- **External Ports** (also available at the back of the computer) – provides the availability to plug in speakers, headphones, microphones, and more.



- **Disk Drives** – There are not always two Disk Drives. These provide the capability to use CD-ROMs, DVD-ROMs, and also to write/save/burn on to CD/DVD-R's and CD/DVD-RW's.
- **3.5 Floppy Drive** – Many new computer do not have this floppy drive, but it can be added internally to your computer, or externally with a USB cable.



- **Memory Card Reader** – reads Memory Cards which are small storage devices used to hold data such as text, images, audio, and video for use on small electronic devices.



- **USB Ports** (Universal Serial Bus) – special receptacles that allow you to connect devices to the computer to transfer data.



- **Disk Drives** – holds long and short term storage.
- **Hard Drive** – also called the Hard Disk, is the computer's main permanent storage area. Stores programs and documents.
- **Memory (RAM)** – this is memory that you use when working on the computer.

- **Processor (CPU)** – coordinates the flow of data in the computer. Many times called the brain of the computer.



- **Motherboard** – holds the computer's circuitry and components.
- **Video Card** – allows images to be displayed on the computer.
- **Sound Card** – allows input and output of sounds
- **Network Card** – allows computers to communicate with one another over a computer network.

Other Computer Hardware:

Monitors:



Keyboards:



The Mouse:



Standard Mouse



Optical Mouse

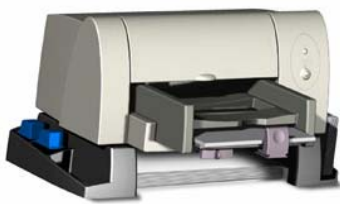


Trackball

Speakers:



Printers:



Personal Printer



Office Printer



All-in-One Printer

If you are interested, you can purchase other digital products that work with your computer...

Webcams - to record live video for use in video conversations or video e-mail.



MP3 Players - small and lightweight, digital audio player that stores digital music files



Digital Cameras - pictures are stored digitally instead of on film



Scanners - ability to scan pictures and documents into a digital format and save.



Flatbed



All-in-One Scanner and Printer

Computer System, Software

We've taken a look at the Computer Hardware, but what makes the computer work? The computer can do nothing until it is given instructions (a.k.a. software). Software is a set of instructions that tells the computer what to do. There are two main kinds of software:

- **System Software** – refers to the operating system and the instructions used to power up the computer. System software usually comes with the computer.
- **Application Software** – programs such as Microsoft Word and TurboTax.

Software is an essential part of your computer system, and the operating system is required to make your computer work. The operating system looks after the different parts of your computer system, linking them to each other and to you.

Unless the software is built into the computer (called **firmware**), it comes in the form of files on a CD-ROM, files downloaded from the Internet. The hard drive on all computers is initially empty, but most computers come from the factory with an operating system and other programs pre-installed on the hard drive. If you prefer, you can wipe the hard drive clean (format it) and install a different operating system and/or new programs.

Application software (programs) is copied from CD-ROMs and/or downloaded from the Internet onto the hard disk drive for convenience and speed.

Computer Storage

When you are finished with a computer project, you have the option to save the work onto the Hard Drive or with the **Removable Drives** (portable storage devices are inserted into the removable drives, saved, and then removed).

The various portable devices hold different amounts of information.

But, before we talk about the different portable storage devices, we need to briefly discuss Computer Language.

The smallest unit of information for a computer is a **bit** shown as a **0 or 1**.

Eight of this bits make a **byte** (eight 0 or 1).

- Which is the size of one alphabetic letter.

One Kilobyte (K or Kb) = 1,000 bytes

One Megabyte (Meg or Mb) = 1,000,000 bytes

One Gigabyte (Gig or G) = 1,000,000,000 bytes

Terabytes (Tb) = 1,000,000,000,000 bytes

Storage Space Comparison



3.5 Floppy Disks =
1.44 Mb



CD-ROM = 640 Mb
DVD-ROM = up to
8.5 GB



Jump Drive = 32 mb
to 2 Gb



Hard Drive = up to
320 Gb (check
your computer)

Other Storage Devices – Memory Cards (Inserts into the Memory Card Reader of newer computers)



Compact Flash



Memory Stick



Secure Digital



xD

Computer Memory

The computer has two types of memory – **ROM** and **RAM**

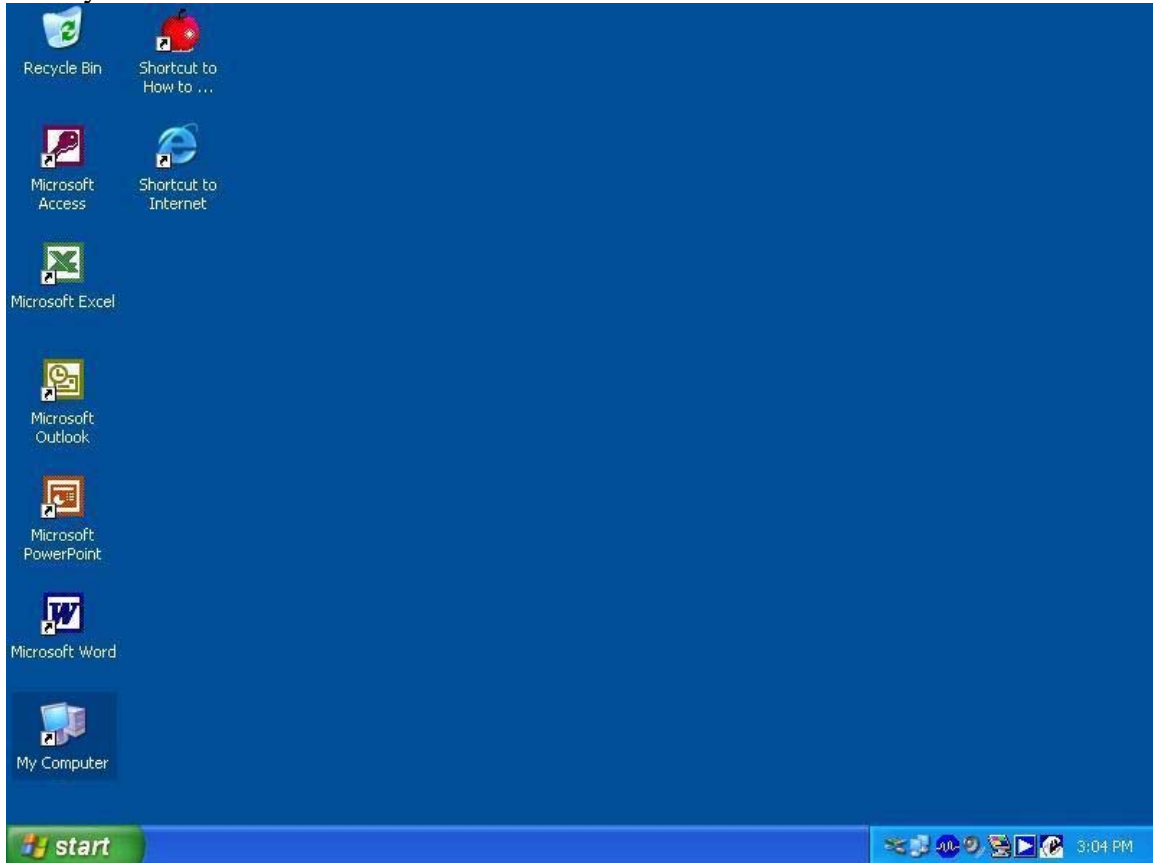
ROM (Read Only Memory) stores data permanently and you cannot change this information. ROM is used to start up your computer

RAM (Random Access Memory) is memory that a computer works on a temporary basis. The information is erased once the computer is shut down unless saved.



Computer Desktop

Once you turn on the computer and Windows starts, the **Desktop** will appear. Depending on how your computer is set up, certain icons (pictures) will appear on your desktop when you start Windows.



The various parts of the Windows Desktop are as follows:

My Computer is a desktop icon that can be used to access the files and programs on the computer. When you double-click on the My Computer icon it displays various resources available to your computer. These include floppy disk drives, CD-ROM drives, hard disk drives, and also many network resources you are connected with such as printers and network drives.

Recycle Bin is a temporary storage place for deleted files. You can use it to retrieve files deleted in error. These deleted files are not actually removed from your hard disk until you empty the Recycle Bin. To free up disk space, you must empty the Recycle Bin periodically.

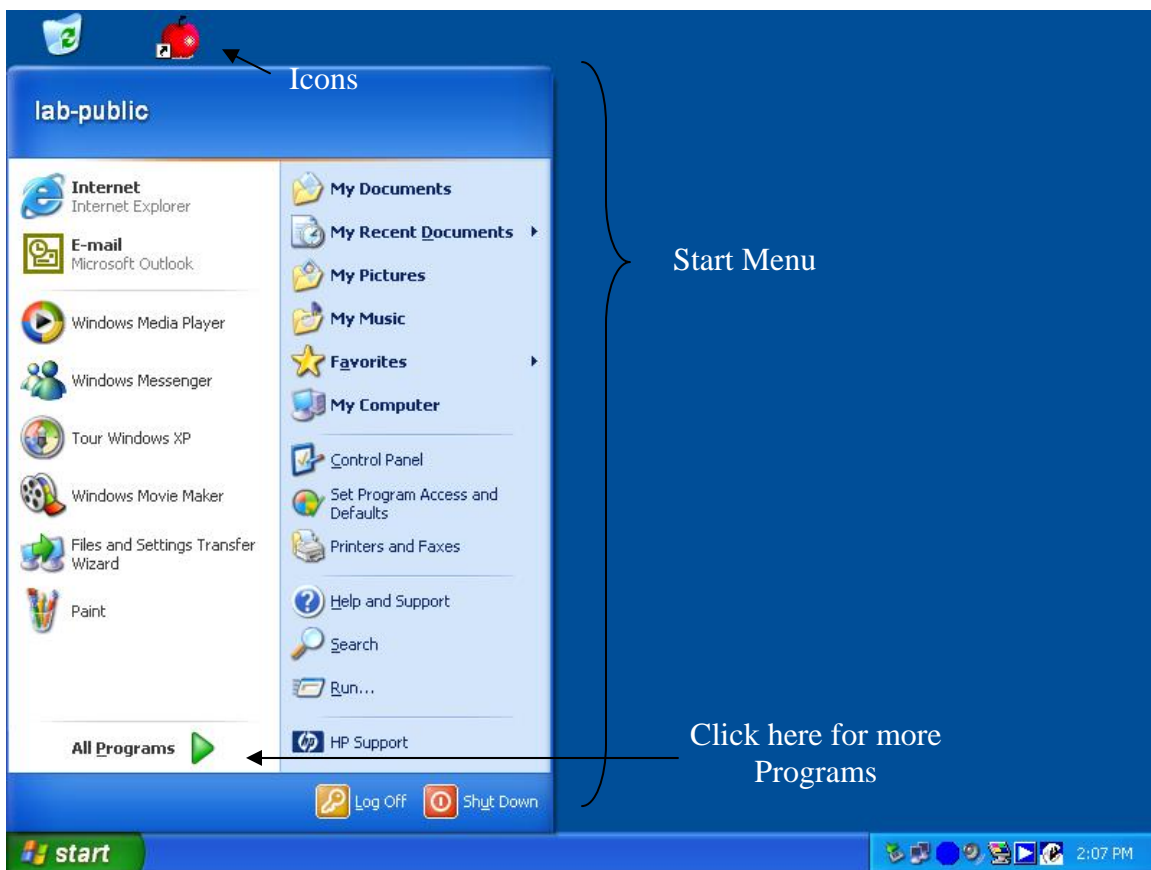
Start is located at the bottom left of your screen after Windows begins. By default, it and the taskbar are always visible when Windows is running. The Start button is used to

start programs, open documents, change system settings, find items on your computer, get Help, as well as log off and shut down your computer.

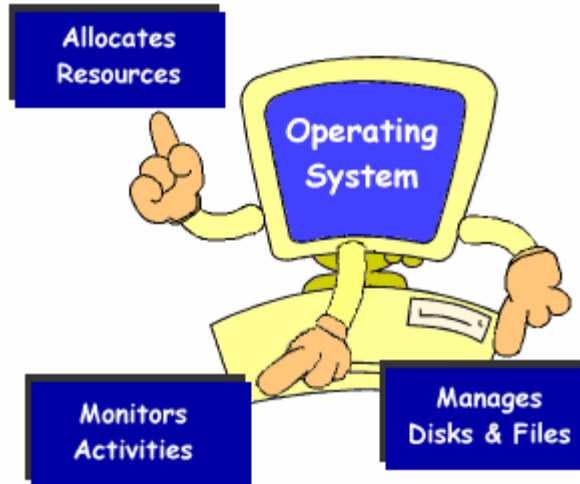
Taskbar, located across the bottom of your screen, displays the icons and titles of all programs or folders currently active on the screen. It is an integral part of the multi-tasking feature of Windows.

Operating System Overview

Below is a **Windows Operating System** Desktop (showing the Start Menu).



An **Operating System** is a program that controls the overall activity of your computer. It manages the various files in your computer. It allows the computer hardware to interact with your computer software.



How to Use the Mouse

The mouse is a small, hand-held device that is used to control the pointed on the screen. The pointer (or mouse pointer) is the arrow on the screen that moves with the mouse as you slide it over a flat surface. The pointer shape changes depending on the job it is doing (or can do) at the current time.

A mouse usually has at least two buttons...

- Primary button (usually the left button)
- Secondary button (usually the right button)

There are five main mouse actions:

1. Point	Move the mouse until the tip of the mouse pointer is over the item you want.
2. Click	Quickly press and release the left mouse button. It is essential to hold the mouse firmly while you click so that it does not slide out of position.
3. Right-click	Quickly press and release the right mouse button.
4. Double-click	Quickly press and release the left mouse button twice. This must be done in rapid succession.
5. Drag	Point to an item. Press and hold down the left mouse button, slide the pointer to a new location, and release the mouse button.

Important:

- When instructed to click or double-click, always use the left mouse button unless otherwise instructed.
- The Primary and Secondary mouse buttons can be switched.

The Keyboard

The keyboard is an input device, similar to a typewriter, which allows you to send information to the computer. Here is a description of the many key on the keyboard.

Alphanumeric (what looks like the typewriter portion of the keyboard) These keys are used for entering text or commands into the computer.

Function Keys – The twelve keys located across the top of the keyboard that are labeled F1 through F12 are called Function Keys. They are used to issue commands.

Control Keys – Shift, Ctrl, and Alt are used in combination with other keys to issue commands. These are also called Booster keys.

Enter – Executes a typed command, performs a selected option from a menu, marks the end of a line, or creates a blank line (Remember the Carriage Return?)

Backspace – Deletes one character to the left of the flashing cursor each time you press it, usually to correct spelling mistakes.

Delete – Deletes the character to the right of the flashing cursor each time it is pressed.

Spacebar – Used to insert a blank space between words or sentences.

Esc – The Escape key in the upper left hand corner cancels a current selection.

Tab – Advances the cursor to the right a specified number of spaces in a word processing program or the next cell in a spreadsheet program or a table.

Shift – In addition to <Shift> being used as a Control key, it also selects the uppercase letters for the alphabetic keys and produces the symbols that share the number keys.

Caps Lock – A “toggle” key that locks only the alphabetic keys to produce the uppercase versions of each letter.

Arrow keys – Used to move the cursor (or pointer) up, down, left, or right.

Insert – A “toggle” key that switches the data input from the insert mode to “typeover” mode.

Home – Moves the cursor to the beginning of the line of data.

End – Moves the cursor to the end of the line of data.

Page Up and Page Down – Used when scrolling through documents or screens to move up or move down one screen at a time.

Num Lock – A “toggle” key that changes the mode of the Cursor and Numeric Keypad.

Number Keys – Used to enter numeric information, similar to a calculator pad.

Windows Key – Opens the Start menu on the taskbar.

Application Key – Functions in some applications to produce a shortcut menu.

Print Screen, Scroll Lock and Pause/Break – Keys used mostly in DOS applications to manipulate screen display.

Additional Computer Terms

CD-ROM (Compact Disk-Read Only Memory) - A portable memory device. It is used in the computer's CD-ROM drive and typically holds 640 megabytes of information.

Computer – A programmable, electronic device that can store, retrieve, and process data. It has two components – hardware and software.

CPU (Central Processing Unit) – The brain of the computer, the part of the computer that executes instructions.

Crash – A serious computer failure. The computer stops working or a program quits unexpectedly. A crash may result from a hardware malfunction, a serious software defect, or a virus.

Database – A collection of information organized in such a way that a computer can quickly select and/or sort desired pieces of data.

Desktop – The computer screen or background that contains components such as the Taskbar, My Computer, Recycle Bins icons, any other shortcut icons, and any Windows and Dialog Boxes that have been opened.

Disk Drive – A device that reads data from and writes data onto a disk. Disk drives are described by the size of the disks that they hold.

Flash Memory – non-volatile computer memory that can be electronically erased and reprogrammed. Used primarily in Memory cards.

Floppy Disk – A portable memory device, commonly 3.5 inches in size. Typically holds 1.44 megabytes of information.

Hard Disk – The large spinning plate that is usually sealed inside the computer and holds a large amount of information, typically in the gigabyte range, for quick access.

Hard Drive – The disk drive that houses the hard disk. The hard drive and the hard disk are often referred to as the “hard drive”

Hardware – the physical, touchable parts of a computer (CPU, monitor, disks, modem, cables, mouse, keyboard, etc.)

Icon – A small picture that represents a file or a program. Clicking or double clicking on the icon will activate it.

Memory Card – small, thin storage devices used with digital cameras, handheld and laptop computers, telephones, music players, video game consoles, and other electronics. Flash memory is used for this type of storage device.

Modem – A device, internal or external to a computer, that enables one computer to talk to another computer using telephone or cable lines.

Operating System – The master software program of a computer that controls the hardware of that computer, runs programs, manages files and documents.

Reboot – To “reset” or restart a computer.

Software – Programs used to operate computers and related devices. Software tells the hardware what to do.

USB Flash Drives – This devices goes by many names (thumb drive, flash drive, jump drive, and others). A data storage device that is small, but it can hold up to 2G of information. It is used with the USB Port.

USB Port – special receptacles that allows you to connect a string of up to 127 devices to a single receptacle.

Window – A viewing area on a computer display screen. The Windows Operating System had a graphical user interface and allows for multiple viewing areas.