



Computer Fundamentals

Computers are machines that perform tasks or calculations according to a set of instructions, or programs. The first fully electronic computers, introduced in the 1940s, were huge machines that required teams of people to operate. Compared to those early machines, today's computers are amazing. Not only are they thousands of times faster, they can fit on your desk, on your lap, or even in your pocket

Information Processing System

- ❑ DATA is a collection of independent and unorganized facts.
 - ❑ INFORMATION is the processed and organized data presented in a meaningful form.
 - ❑ DATA PROCESSING is the course of doing things in a sequence of steps.
-

Types of Computers

- ❑ Supercomputers...are used to process very large amounts of information including processing information to predict hurricanes, satellite images and navigation, and process military war scenarios.
 - ❑ Mainframes...are used by government and businesses to process very large amounts of information.
 - ❑ Mini-Computers...are similar to mainframes...they are used by business and government to process large amounts of information.
 - ❑ Personal Computers (PC)...
-

Types of Computers

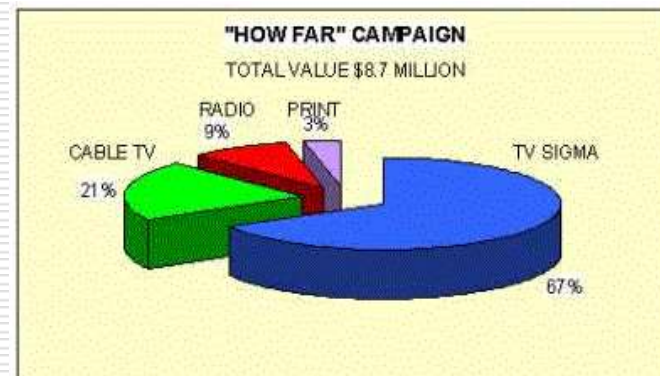
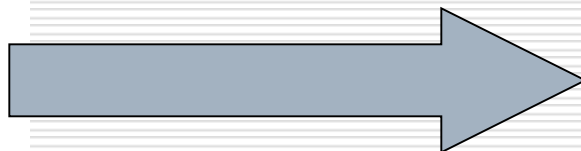
- ❑ Supercomputers...are used to process very large amounts of information including processing information to predict hurricanes, satellite images and navigation, and process military war scenarios.
 - ❑ Mainframes...are used by government and businesses to process very large amounts of information.
 - ❑ Mini-Computers...are similar to mainframes...they are used by business and government to process large amounts of information.
 - ❑ Personal Computers (PC)...
-



PROCESSING
SYSTEM



DATA



INFORMATION

Types of Computers

- ❑ Supercomputers...are used to process very large amounts of information including processing information to predict hurricanes, satellite images and navigation, and process military war scenarios.
 - ❑ Mainframes...are used by government and businesses to process very large amounts of information.
 - ❑ Mini-Computers...are similar to mainframes...they are used by business and government to process large amounts of information.
 - ❑ Personal Computers (PC)...
-

Types of Computers

□ Personal Computers (Continued)

Personal Computers...also known as PC's...are smaller and less powerful than the others. They are used in homes, schools, and small businesses.

Types of Computers



There are 3 main types of PCs

- ☐ Desktop
- ☐ Portable (Notebook/Laptop)

When portable (notebook/laptop) computers were first created they were HUGE. They weighed around 100 lbs., and were carried in a large luggage suitcase. The creators of the portable (notebook/laptop) computer dreamed that one day it would be the size a notebook or pocket dictionary. With today's technology, we have been able to accomplish this goal and more..

- ☐ Hand-Held
-

Functions of an Information Processing System

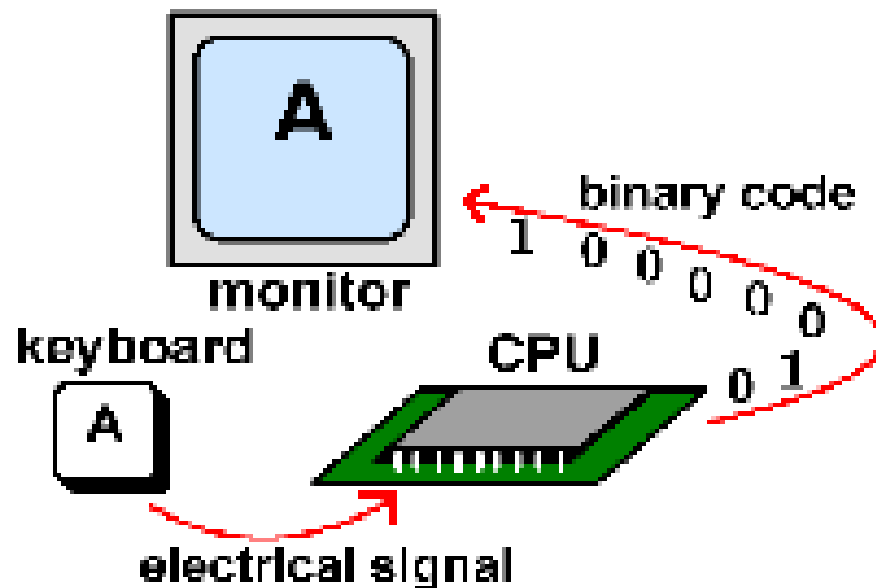
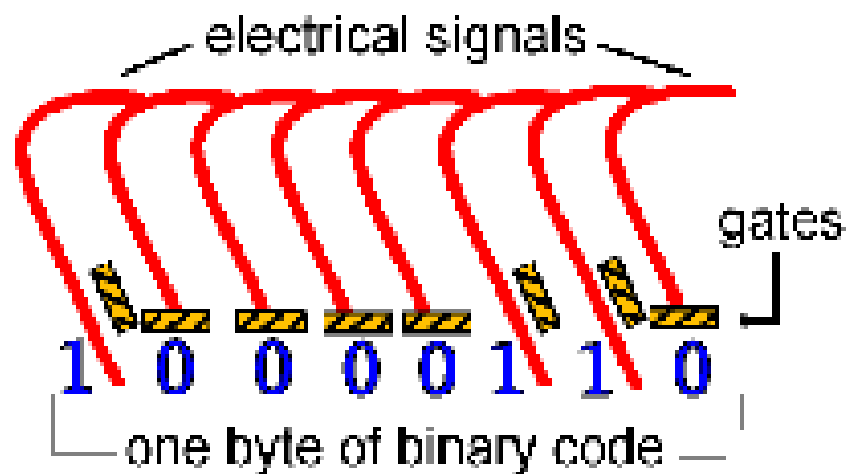
1. It accepts and gather data. (INPUT)
 2. It processes data to become information. (PROCESSING)
 3. It stores data and information. (STORE)
 4. It presents information. (OUTPUT)
-

Three Major Components of an Information Processing System

- ❑ HARDWARE is the tangible part of a computer system.
- ❑ SOFTWARE is the non-tangible part that tells the computer how to do its job.
- ❑ PEOPLEWARE refer to people who use and operate the computer system, write computer programs, and analyze and design the information system.

Basic Units of Measurement

- A byte can be used to represent a single character, which can be:
 - A letter
 - A number
 - A special character or symbol, or
 - A space
-



Networks



- ❑ A network is a group of computers that share information and hardware.
 - ❑ The computers are connected together using copper phone wires, fiber optic cables, or radio waves.
 - ❑ Our computers are on a network here at school...Look under the table and see the blue wires that connect your computer to the network.
 - ❑ The internet is many networks around the world that are all connected together to make 1 huge network.
-

Parts of a Computer

- There are two basic parts that make up a computer...

Hardware



Software



Hardware

- Hardware is basically anything that you can touch with your fingers.

Computer Case

CPU (central processing unit...Pentium chip)

Monitor

Keyboard & Mouse

Disk Drive, Zip Drive, CD-ROM, DVD,

Hard Drive

Memory (RAM)

Speakers

Printer

Hardware (Continued)

□ There are three types/categories of hardware

1. Input Devices
2. Output Devices
3. Storage Devices



Software

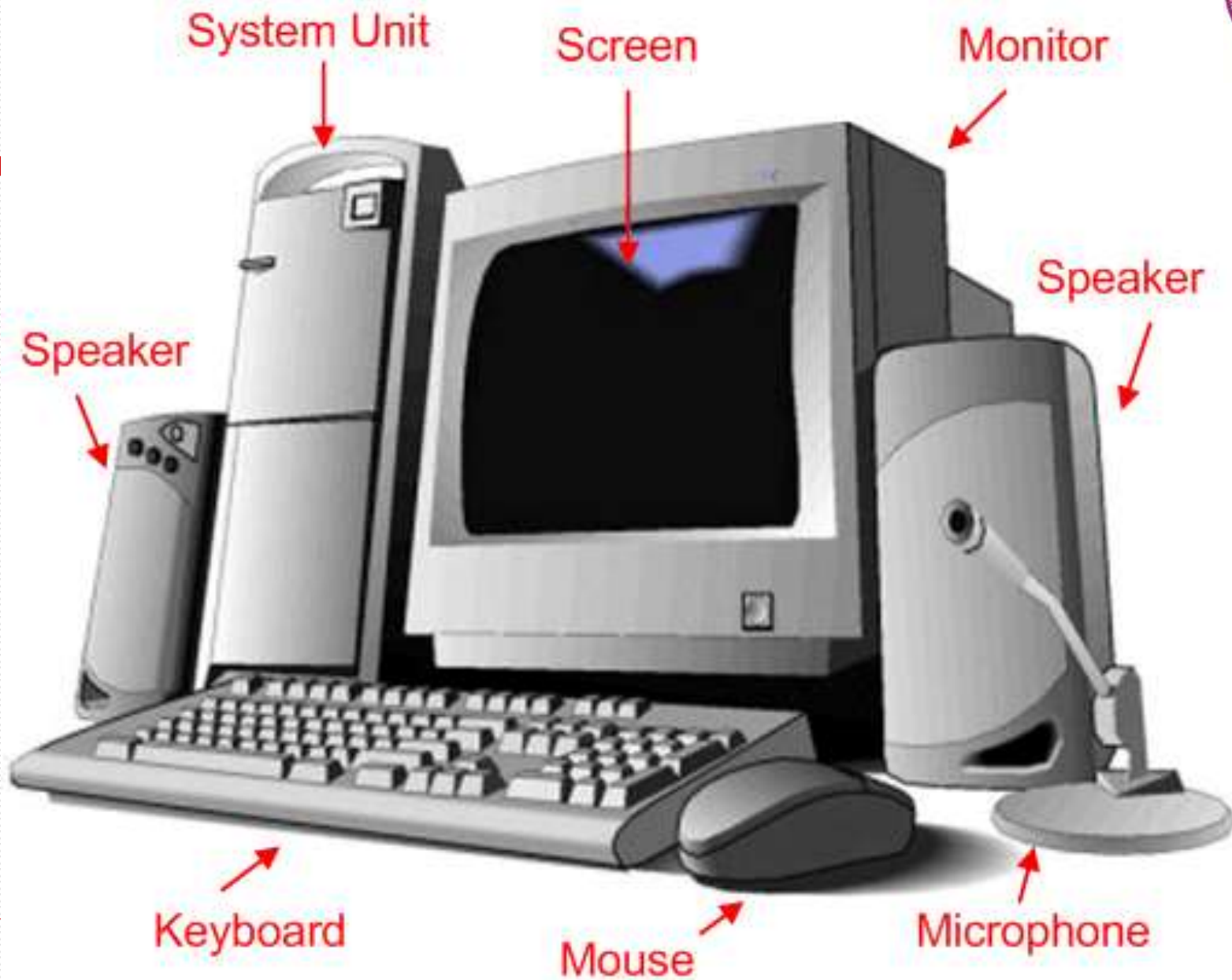
- ❑ Software is the programs and applications that tell the computer what to do and how to look.
 - ❑ Computer programmers write the codes/instructions that make-up software applications/programs.
 - ❑ HTML is a type of computer programming language that allows programmers to make web pages.
 - ❑ The next 2 slides show what HTML codes look like and the web page the codes produce.
-



```

<HTML>
<!--This file created 11:48 AM 11/27/01 by Claris Home Page version 3.0-->
<HEAD>
  <TITLE>CMS Home Page 2001</TITLE>
  <META NAME=GENERATOR CONTENT="Claris Home Page 3.0">
  <X-CLARIS-WINDOW TOP=0 BOTTOM=463 LEFT=0 RIGHT=788>
  <X-CLARIS-TAGVIEW MODE=minimal>
</HEAD>
<BODY LINK="#000000" VLINK="#FF8020" BACKGROUND="0bckgrnd.gif">
<P><!-- BANNER --> <TABLE BORDER=0 WIDTH="100%" align=DEFAULT>
  <TR>
    <TD WIDTH="20%">
      <P><IMG SRC="0run.gif" WIDTH=85 HEIGHT=41 X-CLARIS-USEIMAGEWIDTH X-CLARIS-USEIMAGEHEIGHT
BORDER=0 ALIGN=left></P>
    </TD>
    <TD ALIGN=center WIDTH="70%">
      <P><IMG SRC="0cmst.gif" WIDTH=391 HEIGHT=74 X-CLARIS-USEIMAGEWIDTH
X-CLARIS-USEIMAGEHEIGHT ALIGN=bottom><BR>
      <IMG SRC="0rd1.gif" WIDTH=457 HEIGHT=11 X-CLARIS-USEIMAGEWIDTH X-CLARIS-USEIMAGEHEIGHT
ALIGN=bottom></P>
    </TD>
  </TR>
</TABLE>
<!-- LEFT SIDE --> <TABLE BORDER=0 WIDTH="100%" HEIGHT=181 align=DEFAULT>
  <TR>
    <TD VALIGN=top NOWRAP WIDTH="20%" HEIGHT=177>
      <P><A HREF="/dept/arts.htm"><FONT SIZE="-1">Art and
Music</FONT></A><FONT SIZE="-1"><BR>
      </FONT><A HREF="/dept/foreignlg.htm"><FONT SIZE="-1">Foreign
Language</FONT></A><FONT SIZE="-1"><BR>
      </FONT><A HREF="/dept/lang.htm"><FONT SIZE="-1">Language
Arts</FONT></A><FONT SIZE="-1"><BR>
      </FONT><A HREF="/dept/MATH.HTM"><FONT SIZE="-1">Mathematics</FONT></A><FONT
SIZE="-1"><BR>
      </FONT><A HREF="/dept/media.htm"><FONT SIZE="-1">Media &

```

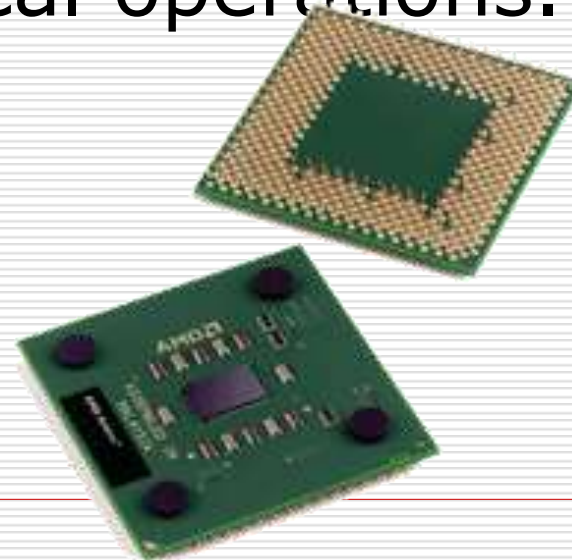


Basic hardware of a PC system

- ☐ Central Processing Unit (CPU)
 - ☐ Memory Unit
 - ☐ Input Devices
 - ☐ Output Devices
 - ☐ Secondary Storage Devices
-

1. Central Processing Unit

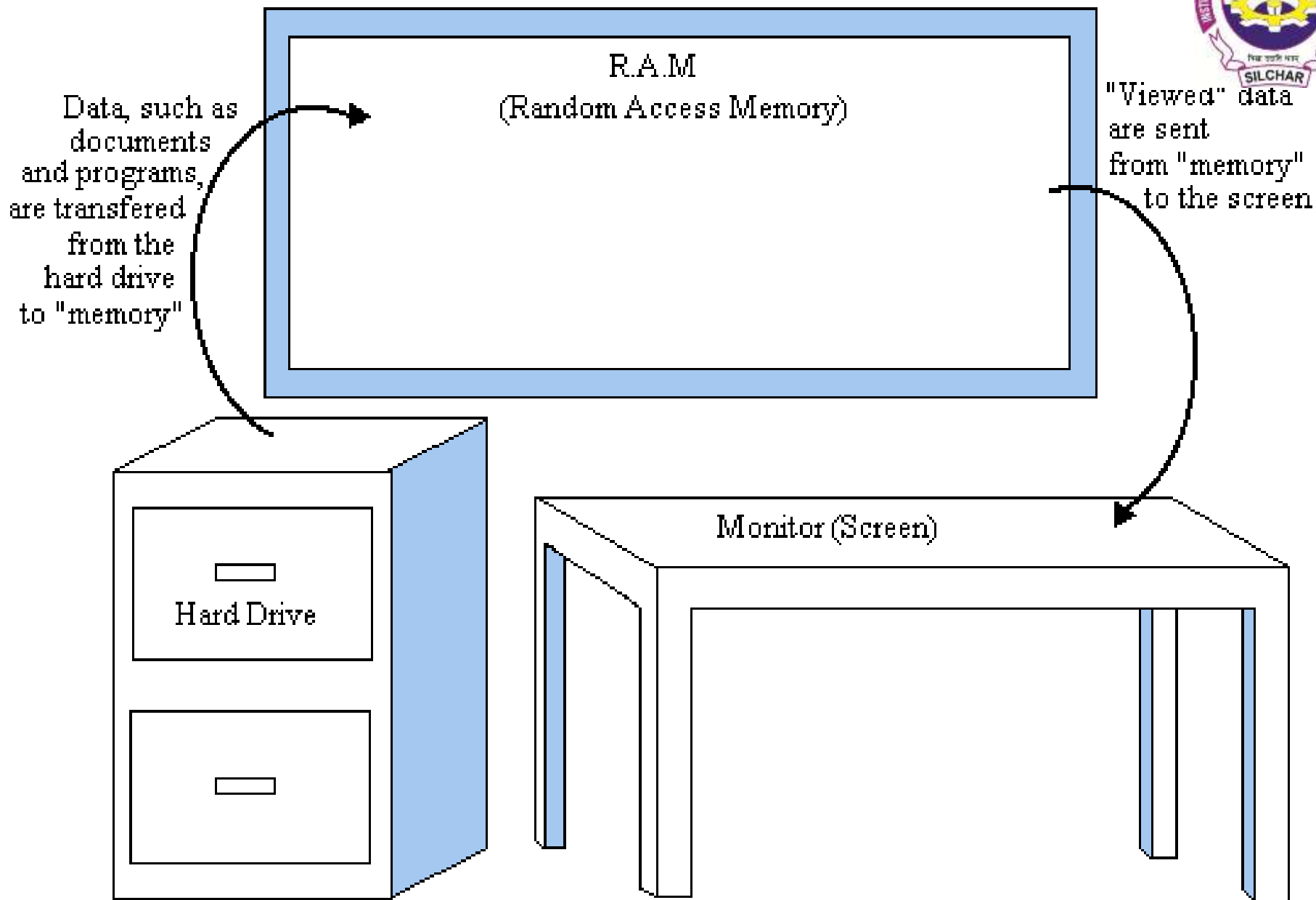
- ❑ Brain of the computer.
- ❑ It directs and controls the entire computer system and performs all arithmetic and logical operations.



2. Memory Unit

- ❑ Where the programs and data are stored .
 - READ ONLY MEMORY (ROM) contains the pre-programmed computer instructions such as the Basic Input Output System (BIOS).
 - RANDOM ACCESS MEMORY (RAM) is used to store the programs and data that you will run. Exists only when there is power.





3. Input Devices

□ Allows data and programs to be sent to the CPU.

- Keyboard
- Mouse
- Joystick
- Microphone
- Webcam
- Scanner
- Monitor



Keyboard



- ☐ Traditional keyboards
- ☐ Flexible keyboards
- ☐ Ergonomic keyboards
- ☐ Wireless keyboards
- ☐ PDA keyboards



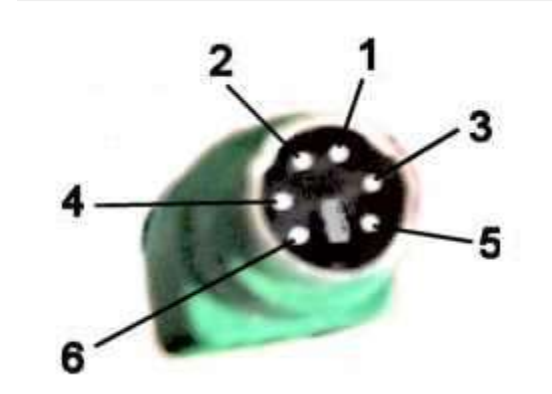
Two Types of Mouse

- ❑ **Mechanical** - a type of computer mouse that has a rubber or metal ball on its underside and it can roll in every direction.
- ❑ **Optical:** This type uses a laser for detecting the mouse's movement.



How a Mouse Hooks Up to a PC

□ PS/2 Mouse



□ Serial Mouse

□ USB/Cordless Mouse



Other Pointing Devices

❑ Trackball



❑ Track point



❑ Touch pad



❑ Touch Screen



- ❑ Joystick – input device
~~for computer games~~



- ❑ Light Pens – light-sensitive penlike device



- ❑ Stylus – penlike device commonly used with tablet PCs and PDAs.



Scanning Devices

- ☐ Optical scanners
- ☐ Card readers
- ☐ Bar code readers
- ☐ Character and mark recognition devices

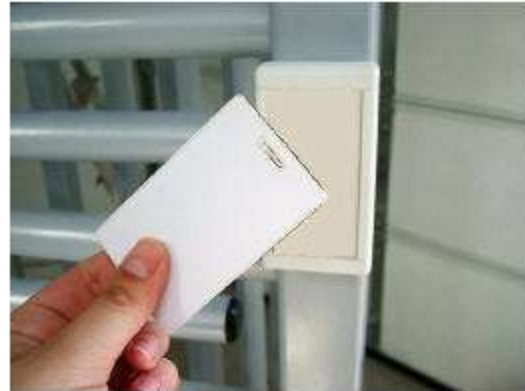


Image Capturing Devices

❑ Digital Cameras



❑ Digital Video Camera

