

Computer System

Computer System

- Is a collection of related components that have all been designed to work together smoothly.

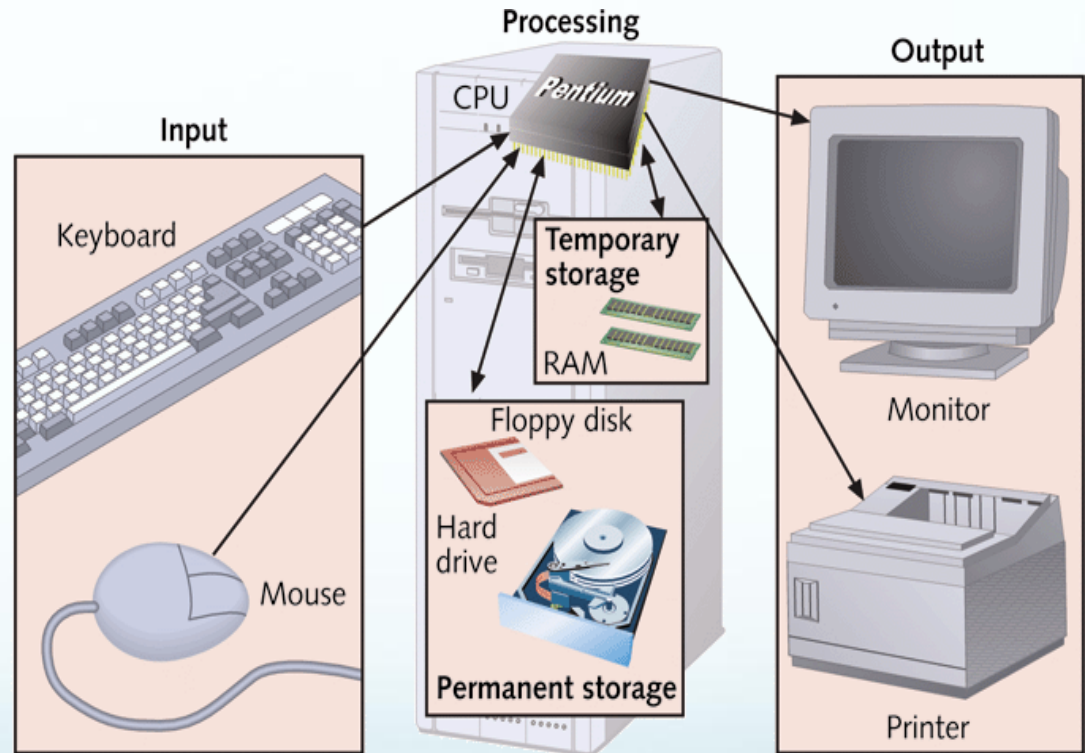


Figure 1-1

Computer activity consists of input, processing, storage, and output

Hardware - the physical components of the computer, including the computer itself and matched peripherals.

Software - the programs that run the computer.

Data - are facts, or unorganized raw materials, which can be made up of words, numbers, images, or sounds.

Information – data that has been processed.

Binary System

Bit - the smallest unit of data that a computer uses. It can be used to represent two states of information, such as Yes or No.

Byte - is equal to 8 Bits. A Byte can represent 256 states of information, for example, numbers or a combination of numbers and letters. 1 Byte could be equal to one character.

Bits on Bytes

1 byte	= 8 bits
1 kilobyte (K / Kb)	= 1,024 bytes
1 megabyte (M / MB)	= 1,048,576 bytes
1 gigabyte (G / GB)	= 1,073,741,824 bytes
1 terabyte (T / TB)	= 1,099,511,627,776 bytes

How big is BIG??

- Fact 1: Kilobyte

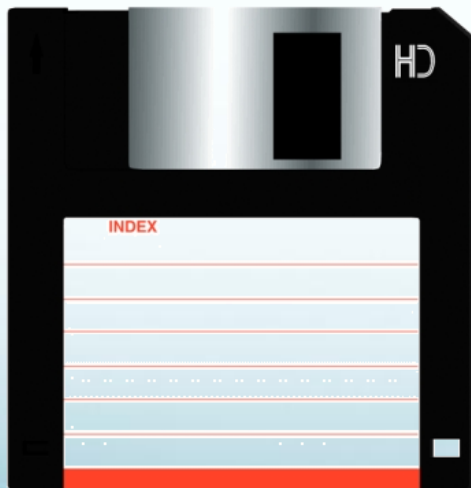
1 Kilobyte would be equal to this paragraph you are reading, whereas 100 Kilobytes would equal an entire page.



How big is BIG??

- Fact 2: Megabyte

One of those old 3-1/2 inch floppy disks can hold 1.44 Megabytes or the equivalent of a small book.

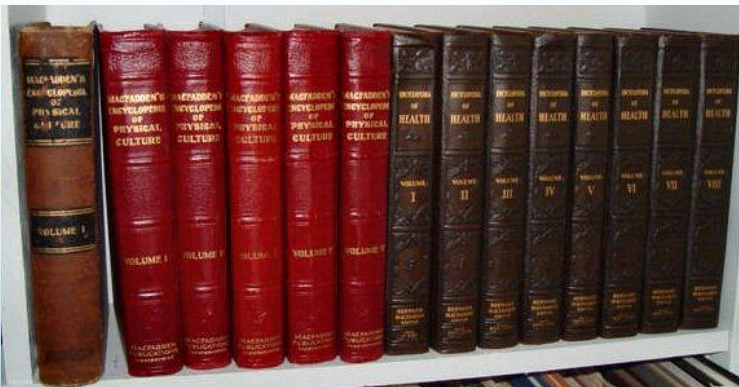


How big is BIG??

- Fact 2: Megabyte

100 Megabytes might hold a couple volumes of Encyclopedias.

650 Megabytes is about the amount of data that will fit on a CD-ROM disk.



× 6 =



How big is BIG??

- Fact 3: Gigabyte

1 Gigabyte of data is almost twice the amount of data that a CD-ROM can hold.

1 Gigabyte could hold the contents of about 10 yards of books on a shelf. 100 Gigabytes could hold the entire library floor of academic journals.



How big is BIG??

- Fact 4: Terabyte

To put it in some perspective, a Terabyte could hold about 3.6 million 300 Kilobyte images or maybe about 300 hours of good quality video. A Terabyte could hold 1,000 copies of the Encyclopedia Britannica. Ten Terabytes could hold the printed collection of the Library of Congress.

HARDWARE

Computer System Components

- **Input** - getting data into the computer

Input Devices

– enable users to get data into the computer for processing



Computer System Components

- **Processing** - transforming data into information

Microprocessor is simply a small processor fabricated on a chip of silicon



Figure 5-8

VIA C3 processor

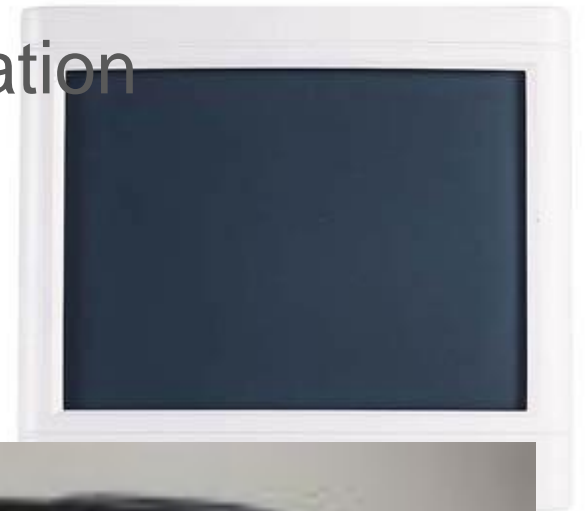
Figure 5-9

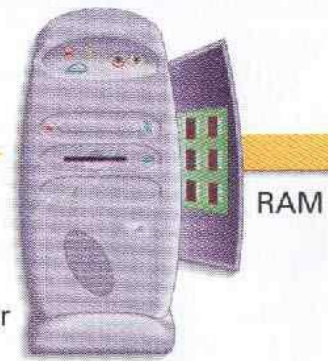
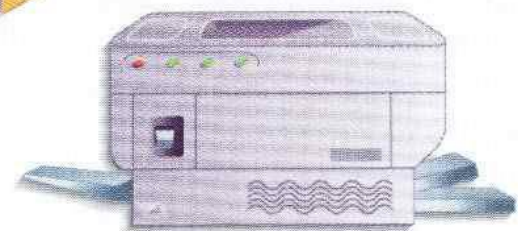
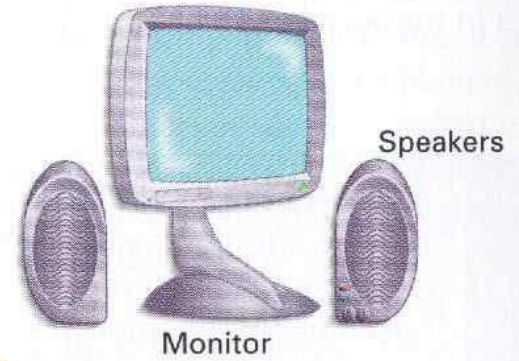
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Computer System Components

- **Output** – displaying the information

Output devices – enable users to see and/or produce processed informations





Input

Processor

Processing

RAM

Monitor

Speakers

Printer
Output

Disks

Permanent Storage

SOFTWARE

What is a Software?

- **Software** – refers to any program that tells the computer system what to do.



Categories of Software

- **System Software** – programs that take control of the PC on start-up, and then play a central role in everything that happens within a computer system by managing, maintaining, and controlling computer resources.
- **Application Software** – designed and created to perform specific personal, business, scientific processing tasks.

System Software

Operating System (OS)

Monitors and controls all input / output and processing activities within a computer system. It is a program that controls the PC hardware and the operation of all other programs

PC Platforms

Platform is defined by a processor and an operating system.

Software created to run a specific platform won't run on other platforms.

Most personal computer users choose the *Wintel* platform, which combines one of the Microsoft Windows operating system with an Intel-compatible processor.

PC Platforms

Modern Wintel platforms, such as Windows ME and Windows 2000, are **backward compatible**, allowing programs written for earlier Microsoft platforms to be run on modern systems.

PC Platforms

Before choosing a platform, consider the following:

- Availability of appropriate commercial applications software for the platforms.
- Compatibility of platform with existing hardware, software, and expertise

Application Software

- Word Processing
 - a text editing program, which allows the user to type, compose and correct manuscripts without the need to re-type, when errors changed.

Application Software

Types of Word Processors

- WordStar
- Word perfect
- Microsoft Word

Application Software

- Electronic Spreadsheet
 - is a program replacing the traditional financial modeling tools that offer modern improvements in ease of creating, editing, and using of financial models and graphical representations.

Application Software

Kinds of Electronic Spreadsheet

- Lotus 1-2-3
- MS EXCEL
- QUATTRO
- FRAMEWORK

Historical perspective

- First generation computers (1951-1958)
- Second generation computers (1959-1963)
- Third generation computers (1963-1970)
- Fourth generation computers (1971-1987)
- Fifth generation computers (1987-present)

Thank you

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