

# INTRODUCTION TO COMPUTERS

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# INTRODUCTION TO COMPUTERS

## What Is A Computer ?

Computer is an **electronic device**:

- accepts **input**
- **processes** data
- **stores** data
- produces **output**

**(all according to a series of stored instructions)**

**USER** is anyone who communicates with a computer or utilizes the information.

# INTRODUCTION TO COMPUTERS

## Advantages

- Speed.
- Reliability.
- Consistency.
- Storage.
- Communications.

## Disadvantages

- Violation of Privacy.
- Impact on Labor Force.
- Health Risks.

# INTRODUCTION TO COMPUTERS

## Information Processing Cycle:

**Data** is a collection of unprocessed item, which can include text, numbers, images, audio and video.

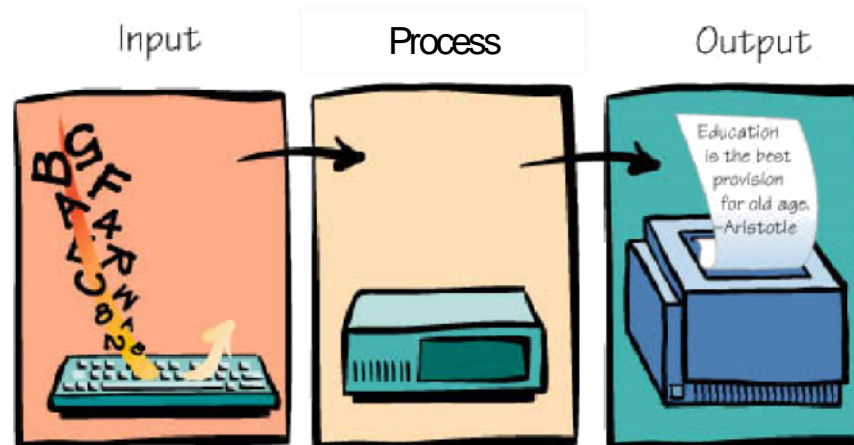
**Information** conveys meaning and useful to people.

**Processing** Procedures that convert input data to output information.

# INTRODUCTION TO COMPUTERS

## Information Processing Cycle:

Computers read incoming data called **input** , **process** the data, and display outgoing information called **output**.

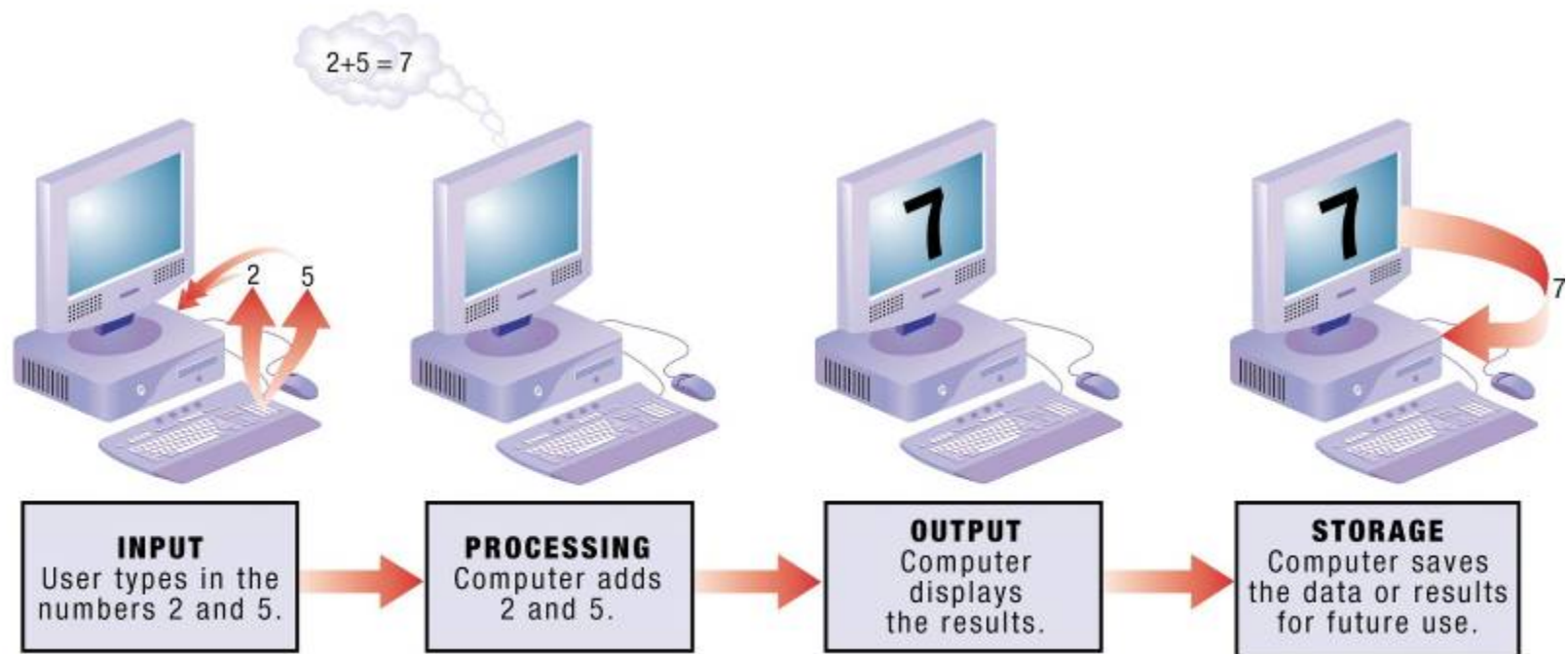


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# INFORMATION PROCESSING CYCLE

**FIGURE 1-5**  
The information  
processing cycle.



# COMPONENTS OF COMPUTERS

## 1-Hardware- H/W

A group of machines in a computer system.

## 2-Software (programs) – S/W

The instructions that tell the computer what to do and how to do it.

# 1-Hardware- H/W

## The Components Of A Hardware:

- Input Devices and Output Devices.
- System Unit.
- Storage Devices.
- Communications Devices.



# CHAPTER 1



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## 2-Software- S/W

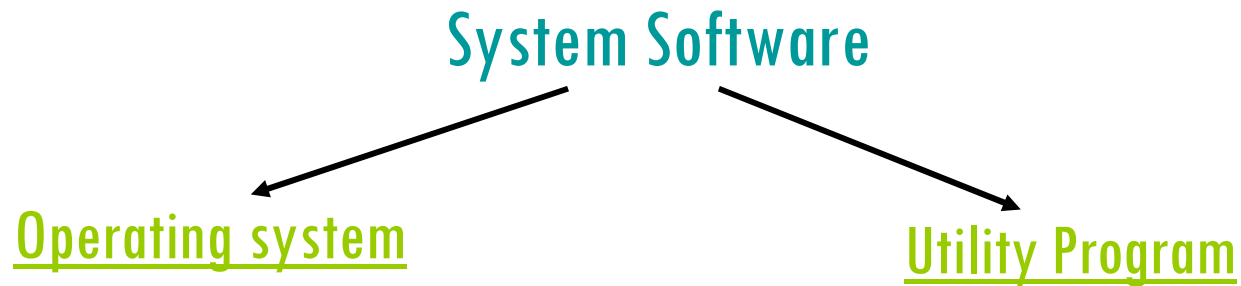
### The Components of Software:

There are two categories of software :

1. **System Software:** Consists of programs that control or maintain the operations of the computer and its devices. It's serves as interface between the user and the computer
2. **Application software:** consists of programs designed to assist users with personal tasks.



## 2-Software- S/W



Is a set of programs that coordinates all the activities among computer H/W devices.

It provides a means for users to communicate with the computer and other S/W

Examples: windows XP, DOS, windows 7

To perform maintenance-tasks usually related to managing a computer, its devices, or its programs.

Example: Disk Cleanup, Disk Defragment

## 2-Software- S/W

### Application software

Packaged programs

Custom programs

Off-the-shelf

EX : Word, RealPlayer,

PowerPoint, Photoshop

Developed specifically for one  
user

# CATEGORIES OF COMPUTERS

## Categories Of Computers

- ❖ Supercomputers.
- ❖ Mainframes.
- ❖ Servers
- ❖ Personal Computer.
- ❖ Mobile Computer And Mobile Devices.
- ❖ Game Consoles.
- ❖ Embedded computers.

# CATEGORIES OF COMPUTERS

## Supercomputers:



- ❖ Is the fastest, most powerful computers and the most expensive.
- ❖ Capable of processing more than 100 trillion instructions in a single second.
- ❖ They are used mostly in scientific and industrial research, by the government, and by very large organizations for controlling their networks.
- ❖ Weather forecasting, oil exploration, telephone network design,



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# CATEGORIES OF COMPUTERS

## Mainframes:



- ❖ Is a large, expensive, powerful computer that can handle hundreds or thousands of connected user simultaneously through a technique called **Timesharing**.
- ❖ It store a huge amounts of data, instructions and information
- ❖ ex. A **timesharing** system allows travel agents all over the country to make reservations using the same computer and the same flight information at the same time.
- ❖ Ex: University System.

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# CATEGORIES OF COMPUTERS

## Mainframes:

- ❖ Most major corporations use mainframes for business activities.
- ❖ Used by large organizations, such as banks and airlines, for big computing jobs.
- ❖ Users communicate with a mainframe using a computer terminal.

# CATEGORIES OF COMPUTERS

## Servers:

- ❖ Controls access to HW, SW and other resources on a network.
- ❖ Provides a centralized storage area for program, data, information.
- ❖ Support from 2 to several thousand connected computers at the same time.
- ❖ People use PC or terminals to access data, info., and programs on it.
- ❖ **Terminal** is a device with monitor, keyboard and memory.



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# CATEGORIES OF COMPUTERS

## Personal Computers (PC):

It's a computer that can perform all of its input, processing, output and storage activities by itself.

There are 2 types of personal computer

### ❖ Notebook Computers

-- Fits on your hand or lap.



### ❖ Desktop Computers

-- Fits entirely on or under desk



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# CATEGORIES OF COMPUTERS

## Mobile Computers And Mobile Devices:

- ❖ **Mobile computers** is a **personal computer** that you can carry from place to place.
- ❖ **Mobile Devices** is a computing device, small enough to hold in your hand.
  - ❖ Usually store programs & data permanently on
    - memory inside the system unit
    - on small storage media such as memory card.
  - ❖ you can connect it to PC to exchange information.
  - ❖ Some Mobiles devices are **Internet-enabled**, its allow to connect to NET

## CHAPTER 1



**Mobile computers**

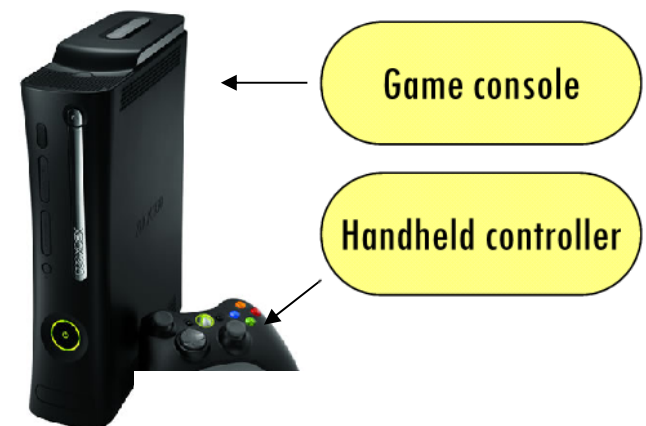


**Mobile Devices**

# CATEGORIES OF COMPUTERS

## Game Consoles:

- ❖ Designed for single-player or multiplayer video games.
- ❖ **Input device** handheld controller
- ❖ **Output** TV screen.
- ❖ **Storage** Hard Disks, CDs, DVDs and memory cards.
- ❖ 2 popular models are
  - Microsoft's **Xbox**.
  - Sony's **Play station**.



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# CATEGORIES OF COMPUTERS

## Game Consoles:

- ❖ **Handheld game console.** Fit in one hand.
- ❖ The controls, screen and speaker built in.
- ❖ Communicate wirelessly with other similar consoles.
- ❖ Allow users to listen to music, watch movies and connect to Net
- ❖ 2 popular models
  - ❖ Nintendo's **Game Boy Micro**
  - ❖ Sony's **PSP**



# CATEGORIES OF COMPUTERS

## Embedded Computers:

- ❖ Special — purpose computer that functions as a component in a larger product.
- ❖ Usually are small & have limited hardware.
- ❖ Functions depending on the requirements of the product in which they reside.
- ❖ some of them designed to improve your safety, security and performance.



# Embedded Computers:



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