BAL BHARATI PUBLIC SCHOOL, PITAM PURA, DELHI-110034

CLASS IV   **Subject: Computer**   **Term I (2020-21)**

Lesson 1 : Computer- Its Classification(REVISION)
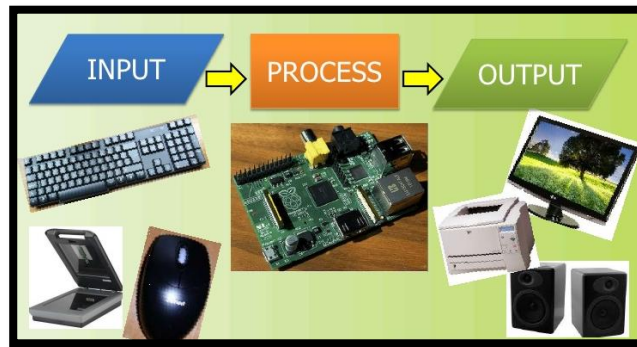
Name _____   Class IV Sec _____   Date - 27.05.2020

In this document we will cover the following topics:
- a) **What is a Computer?**
- b) **Classification of Computers**
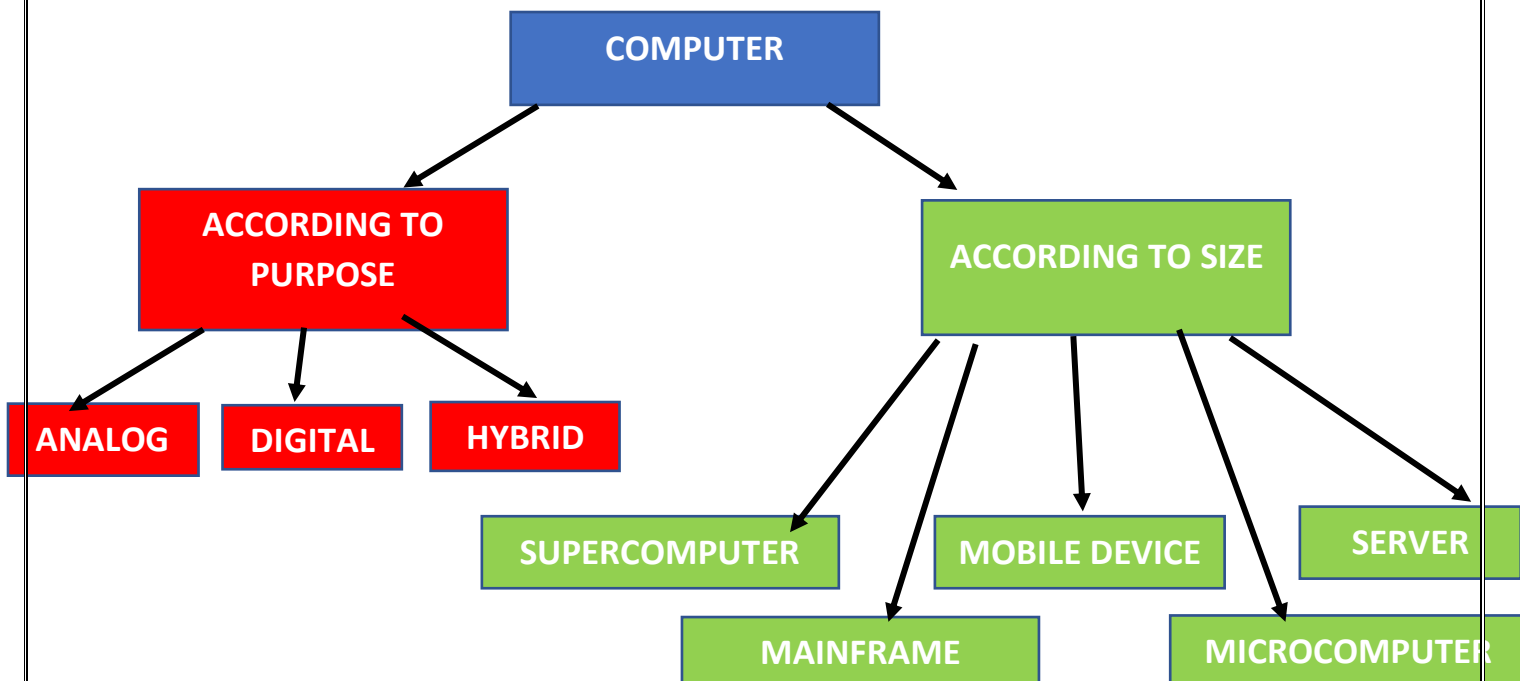- c) **Classification of Computers according to Purpose**

Computer

A computer is an electronic device that takes in instructions (INPUT), processes them (PROCESS) and gives the result (OUTPUT).

Classification of Computers

Computers can be classified according to the following categories:

CLASSIFICATION OF COMPUTERS ACCORDING TO PURPOSE

ANALOG	DIGITAL	HYBRID
An ANALOG COMPUTER takes different input and gives an approximate result. **Examples**: Thermometer Speedometer Voltmeter	A DIGITAL COMPUTER works on the principle of Binary Mathematics (0 & 1) **Examples:** Laptop Digital Wrist Watch Calculator	A HYBRID COMPUTER is a combination of both ANALOG and DIGITAL computer. **Examples:** ECG Machine

Do the following in the book OR in any notebook (if you do not have the book)
[scanned pages of the book are attached below for your reference]

Pg 12: QE part 1

Pg 12: QF part 1

1 » Computer - Its Classification

Hi friends! Welcome to the new class. Till now, you must be familiar with the computer. Now it's time to learn the different types of computers available today.
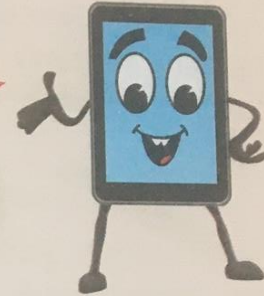
What is a Computer?

A **computer** is an **electronic machine** that takes instructions from us and gives the result after processing them.

Computer works very fast and can do millions of tasks in a second. It can be classified into different ways according to its different shapes, sizes, and working.

Classification of Computers

A computer that is used at home differs in size and shape from the computer used by scientists for research.

Basically, a computer can be classified into two ways:

1. **According to Purpose**
2. **According to Size**

The following chart shows you the classification of computers:

```
                        COMPUTER
          |                              |
  According to Purpose          According to Size
     |    |     |          |       |       |       |        |
  Analog Digital Hybrid  Super  Mainframe Server  Micro   Mobile
                        computer computer        computer  device
```

IT PLANET - 4 (WINDOWS 10)

5
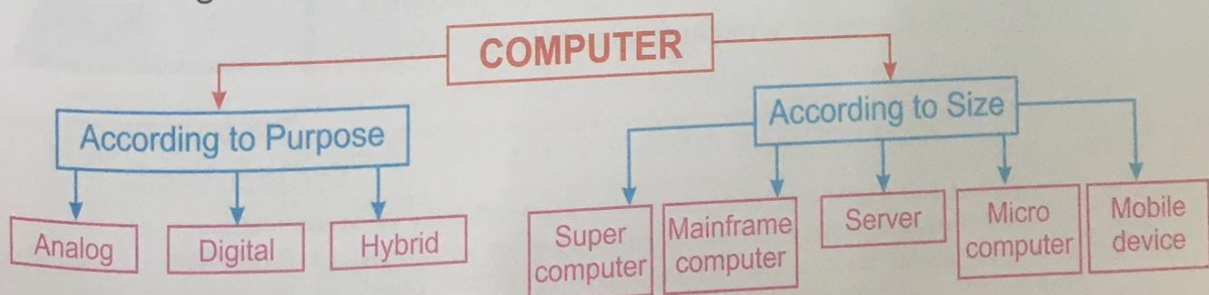
According to Purpose

According to purpose, computers can be categorized into **three** types:

ANALOG COMPUTER

An **analog computer** takes different inputs and gives an approximate result after comparison. It works on the principle of analogous data.

A clinical thermometer, voltmeter, speedometer, fuel gauge, and scale machine are some of the examples of Analog computers.

Thermometer	Voltmeter	Speedometer	Fuel Gauge	Scale Machine

DIGITAL COMPUTER

A **digital computer** works on the principle of binary mathematics. In binary mathematics, all calculations are represented as '0' and '1'.

Microcomputer, laptop, digital wrist watch, calculator, etc., are some of the examples of digital computers.

Microcomputer	Laptop Computer	Digital Wrist Watch	Calculator

HYBRID COMPUTER

Hybrid computers are the combination of both **analog** and **digital computers**. A hybrid computer system offers a cost-effective method that is used to perform complex simulations.

An example of hybrid computer is the **ECG** machine used in hospitals to measure the heartbeat of patients. We use hybrid computers in weather forecasting too.

ECG Machine

Update Your Knowledge

- The first electronic **digital computing device** was **Atanasoff-Berry Computer** (ABC).
- The world's first commercial electronic **digital wrist watch** was introduced by **Hamilton**.
- The biggest **digital clock** is the Lichtzeitpegel (**'Light Time Lever'**) on the television tower Rheinturm in Dusseldorf, Germany.

According to Size

According to size, the computers are classified into **five** groups:

SUPERCOMPUTER

Description: **Supercomputer** is the biggest and the most powerful computer. It is a very expensive computer. It can perform large and complex calculative tasks at a very high speed.

Size: It is the biggest computer. It is as big as the size of a room.

Location: They are found in big organizations.

Speed: They can process 1 trillion instructions per second.

Uses: Supercomputer is used in weather forecasting, nuclear power stations, military simulation, research laboratories, and animation movies.

Supercomputer

MAINFRAME COMPUTER

Description: **Mainframe** is also a large and powerful computer, but it is less powerful than a Supercomputer. It is also an expensive computer. Mainframe has a capacity to host multiple operating systems. Mainframe computer was first developed by IBM.

Size: It is large, normally the size of a closet.

Location: It is mostly found in large business houses or government centres.

Speed: It can process up to millions of instructions per second.

Uses: It is mostly used for scientific research and doing bulk mathematical operations.

Mainframe

SERVER

Description: **Server** is the lifeblood of any **network**. It controls access to the hardware, software, and other resources on a network and provides a centralized storage area for programs, data, and information.

Size: Some servers are big and some are small. It all depends upon their usage.

Location: It is mostly found in offices, banks, and schools.

Speed: Speed of servers is increasing day-by-day.

Uses: Servers support from two to several thousand connected computers at the same time.

Server

MICROCOMPUTER

Description: A **microcomputer** is often called a **Personal Computer (PC)**. It is the smallest of all the computers. The most important part of a microcomputer is **microprocessor**, also called its brain. Peripherals such as keyboard, mouse, and monitor are parts of a microcomputer system.

Size: Designed to be small enough to be used by a single person.

Location: It is mostly found in offices, homes, and schools.

Speed: Speed of a microcomputer is increasing day-by-day.

Uses: Used for creating documents, doing calculations, keeping records, etc.

Desktop Computers and **Notebook Computers** are the type of Microcomputer.

Update Your Knowledge

- The first supercomputer was **CRAY-I**, developed by CRAY Research Inc., USA.
- The world's fastest Supercomputer according to Top 500 Super computers in the list of 2009 is **Cray XT5**, also known as **Jaguar**.
- The first Indian Supercomputer is **PARAM 8000**.
- **IBM Roadrunner** was crowned No. 1 in June 2009 aft...

Desktop Computer

A **desktop computer** is a computer made for use on a **desk** in schools, homes, and offices. A desktop computer is designed in such a way that the system unit, input devices, output devices, and all other devices fit entirely on a desk or a table.
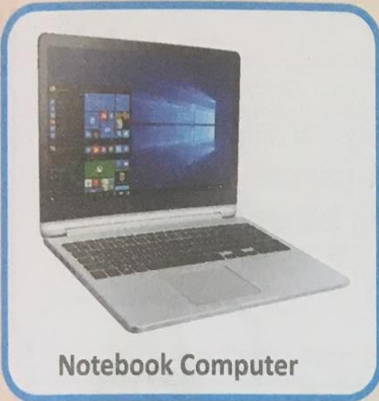
Desktop Computer

Notebook Computer

A **notebook computer** is also called a **laptop**. A notebook computer is a small, lightweight computer that you can easily carry from one place to another. A notebook computer has a built-in keyboard, touchpad, and display screen.

Notebook Computer

MOBILE DEVICES

Description: A **Mobile device** is used to store data permanently on the memory inside it or on small storage media such as memory cards.

Size: Small enough to carry in a bag or a pocket.

Location: It is mostly found everywhere.

Speed: Speed of mobile device is increasing day-by-day.

Uses: It can also be connected to a personal computer for exchanging information.

Tablet PC, Smartphones, E-book Readers, Smartwatches, Digital Camera, and **Game Console** are the types of Mobile devices.

Tablet PC

Tablet PC is a special type of portable computer which has a touch screen. You can use a tablet by **touching** the screen with your **finger** or a **digital pen**. Nowadays, latest tablets resemble smartphones; the only difference is that they are larger than smartphones.

Tablet PC

9

Smartphone

Smartphone is an Internet-enabled phone. In addition to basic phone facilities, it allows you to send and receive e-mail messages and access the Internet, usually for an additional fee. Many smartphones also function as a media player, and include a digital camera so that you can capture an image and share it with others.

Smartphone
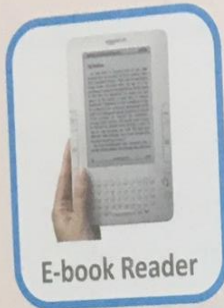
E-book Reader

E-book Reader

An **e-book reader** (short for electronic book reader) is a handheld device that is used primarily for reading e-books. **E-book** is the electronic version of a printed book. Most e-book readers have a touch screen and are Internet-enabled.

Smartwatch

A **smartwatch** is a mobile device with a touchscreen display, designed to be worn on the wrist. It can either work on its own or paired with a smartphone. It can show you the time, track your physical activities and show notifications like messages, emails, calls, and social networks.

Smartwatch

Digital Camera

Digital Camera

A **digital camera** is a mobile device that allows users to take pictures and store photographed images digitally, instead of traditional film. After taking the photograph, you can download a copy of the image from the digital camera to the hard disk of the computer.

Game Console

A **game console** is a mobile computing device designed for single player or multi-player video games. Standard game consoles use a handheld controller as an input device; a television screen as an output device; and hard disks, optical discs, and memory cards for storage. Three popular models are Microsoft Xbox 360, Nintendo Wii, and Sony PlayStation 4.

Microsoft Xbox 360

Nintendo Wii

10
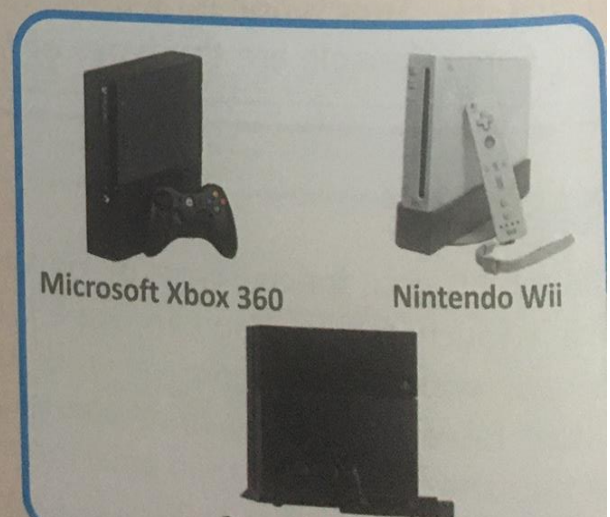
In a Nutshell

- Computers are classified in two ways: according to purpose and according to size.
- According to purpose, computers are classified into three categories: Analog, Digital, and Hybrid.
- According to size, computers are classified into five categories: Supercomputers, Mainframe, Server, Microcomputer, and Mobile devices.

Exercises

A. Tick [✓] the correct answer.

1. The computer that gives an approximate result after comparison is ....
   a. Digital ☐   b. Micro ☐   c. Analog ☐

2. The computer that works on the principle of binary mathematics is ....
   a. Hybrid ☐   b. Digital ☐   c. Analog ☐

3. An example of Mobile device is ....
   a. Desktop ☐   b. Mainframe ☐   c. Smartphone ☐

4. A notebook computer is also called a .... computer.
   a. Smartphone ☐   b. Tablet PC ☐   c. Laptop ☐

B. Write 'T' for True and 'F' for False statements.

1. Supercomputers are used in schools and offices. ☐
2. Many users can work simultaneously on a Mainframe computer. ☐
3. Desktop computers can be carried around conveniently. ☐
4. Mobile computers are the largest computers. ☐
5. Digital camera is a mobile device that allows users to take pictures. ☐

C. Fill in the blanks.

1. In .... computer, all calculations are represented as '0' and '1'.
2. Microcomputers are also called ....
3. .... is a mobile device designed to be worn on the wrist.
4. .... is one of the popular models of game console.

D. Match the following.

1. Desktop
2. Tablet PC
3. E-book
4. Sony PlayStation
5. Mainframe Computer

a. Game Console
b. Developed by IBM
c. Is placed on a table or a desk
d. Electronic book
e. Has a touch screen

E. Differentiate between the following.

1. Analog Computer

Digital Computer

....

....

....

2. Supercomputer

Mainframe

....

....

....

F. Answer the following questions.

1. On which basis can computers be classified?

....

....

2. What is the use of server?

....

....

....

3. What do you mean by Microcomputer? Name its types.

....

....

....
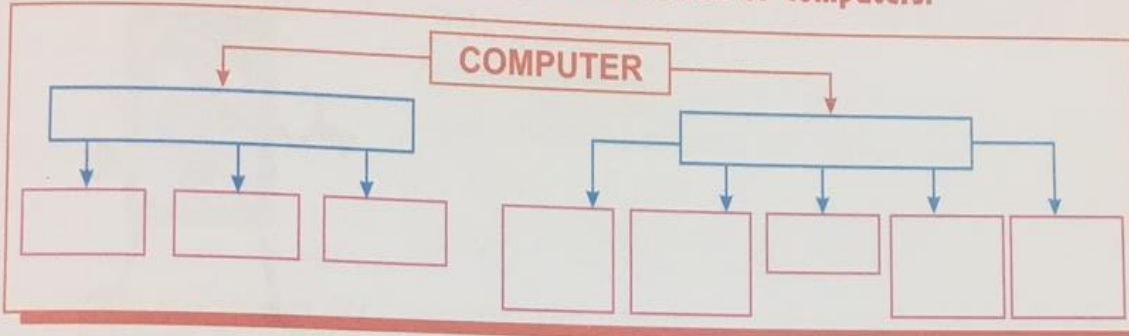
G. Application Based Question.

You are going on an adventure trip organized by your school. Which device do you think you should carry that would give you the convenience to keep in touch with your family and would serve a variety of purposes?

....

Activity Section

Activity Label

Label the following chart showing classification of computers.

```
                          COMPUTER
        ┌───────────────────┐        ┌───────────────────────────┐
        │                   │        │                           │
   ┌────┴────┐              ┌─────────┬────────┬────────┬─────────┐
   │  │  │   │              │   │        │        │        │      │
 ┌───┐┌───┐┌───┐       ┌───┐┌─────┐┌─────┐┌─────┐┌─────┐
 │   ││   ││   │       │   ││     ││     ││     ││     │
 └───┘└───┘└───┘       └───┘└─────┘└─────┘└─────┘└─────┘
```

Activity Match

Match each image in the middle column with a line which best describes it in the left and right columns.

Fit entirely on a desk or a table	Mainframe	Mostly found in schools, homes, and offices
It is normally the size of a closet.	Laptop	An Internet-enabled phone
Also function as a media player and a digital camera	Desktop	Mostly found in government centres
A small and portable computer	Smartphone	Has a built-in keyboard and a display screen

Project Work

Collect pictures of different types of computers from newspapers or magazines and paste them in your activity book.

Group Discussion

Divide the students into two groups and discuss the topic, 'Different Types of Mobile Devices'.