Infolink Collage
Depatrtement of Accounting & Finance

Course Title: Fundamental of Information System

Cr.Hr: 2

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Chapter One

1.1 What is Information system?

- **Information system** is an integrated set of components for collecting, storing, and processing data and for providing information, knowledge, and digital products.

- i. **Data** is a collection of raw facts.

Commonly used definitions of data may include:

- data commonly defined as raw facts and figures, observation
- can be represented by numerals, text, video, or images.



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ii. Information is a processed form of data**.**

Valuable information can be characterized by the following points:

- Accurate - conveys the true situation.
- Timely - is available in time to make decisions.
- Useable - is portrayed in common, easily understood formats and displays.
- Complete - provides all necessary data.
- Precise - has the required level of detail.



1.2. Definition, Characteristics , Limitations and Classification of Computers

1.2.1 Definition of Computers

- **Computer** is a word derived from the *Greek* term compute which means to *calculate*.
- Computer is defined as an electronic computing device, characterized by high speed and accuracy. It can handle data processing, storing, and retrieval following a set of instructions and orders to get the required results.
- **Computer is *an electronic device that accepts, store and processes data, converting it into information.***



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1.2.2 Characteristics and Limitations of Computers

A. ***Chatacteristics of Computer***

Automatic:- Computers are automatic; once started on a job, they carry on until the job is finished, normally without any human intervention.

Speed: computer is a very fast device. The speed of a computer is usually measured in microseconds, nanoseconds, and even in picoseconds. Computers can solve complex calculation, much faster than human beings.

Accuracy: Since Computer is programmed, so whatever input we give it gives result correctly to the point.



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High storage capacity: Computer can store large amount of data with appropriate format using small physical storage device or internal memory.

Versatility: A computer is capable of performing almost any task provided that the task can be reduced to a series of logical steps. A computer can be used to calculate numbers, store data, process text, listen music etc.

Power of remembrance: A computer can store and recall huge amount of information because of its secondary storage capability.



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B. Limitations of Computers

No intelligence: A computer is not magical device. It can only perform tasks that a human being can, but with unthinkable speed and accuracy. It possesses no intelligence of its own. Its intelligence quality is zero. It has to be told what to do using instructions.

No feelings: Computers are devoid of emotion. They have no feelings and no instincts because they are machines. Computers are unable to make judgments on their own. Their judgment is based on the instructions given to them in the form of programs that are written by us.



1.2.3 Classification of Computers

We can classify computers based on different criteria. Some bases of classifications of computers are as follows:-

I. Storage capacity and performance efficiency
II. The type of data they handle
III. The purpose they are designed



I. Classification of Computers based on Storage capacity and performance efficiency

A. Super Computers: This type of computers are Multi-user, multiprocessor large computer of very high efficiency and storing capacity. They are the largest of all computers in terms of their physical size, storage capacity, processing speed and their cost.

- They are specially used to solve scientifically complex problems such as forecasting the weather and global climates, for military research and defense systems, designing automobile, aircraft, and space craft designing.



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B. Mainframe Computer: It is the second powerful multi-user computer and is used in large business organizations, industries and in defense to process data of complex nature. It responds for several hundred requests very quickly. It uses several CPU for data processing. More than 100 users can use mainframe computer at a time because it works on time sharing mode. Its word length is 48 bits to 64 bits.



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C. Minicomputer *Minicomputers are larger and more powerful than most microcomputers but are smaller and less powerful than mainframe computers. Minicomputers can do all the tasks of mainframe computers* **but** *in a reduced scale. So minicomputers are multi-user computer and support more than dozens of people at a time. It is costlier than microcomputer. They are used small to medium sized organizations such as universities.*



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D. Microcomputer *Microcomputers are the most popular and widely used type's computers. They are also known as Personal computer (PC) because they are single user computers. Students, professionals other individual use them due to their small size, low price, and low maintenance cost and easy in operation. There are many different types of microcomputers, such as Desktop, Laptops, tablet computers and smart phones.*



II. Classification of computers based on type of data they handle

A. **Digital computers:-** is an electronic devices that process discrete data and calculations using digits represented by number forms in high speed. In this sense, Binary system is used to represent the values of variables and quantities. This kind is the commonest and the most accurate since it can be programmed and used in a rarity of fields.

B. **Analogue computers:-** is electronic devices that work on wave's principle. They are used in specific to measure continuous flow of data which can expressed in tangible quantities such as atmospheric pressure, temperature, and voltage. They are used in scientific and engineering fields to give round results.



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c. **Hybrid computers:-** Hybrid computers are devices that incorporate the qualities of the previous two types (digital and analogue). They are used in scientific fields processing necessary data from both kinds.

- They are characterized by their digital processing the ability to store data, high accuracy, and the ability to create arithmetic functions (correlations).
- Their **disadvantages** high cost and overlapped programming.

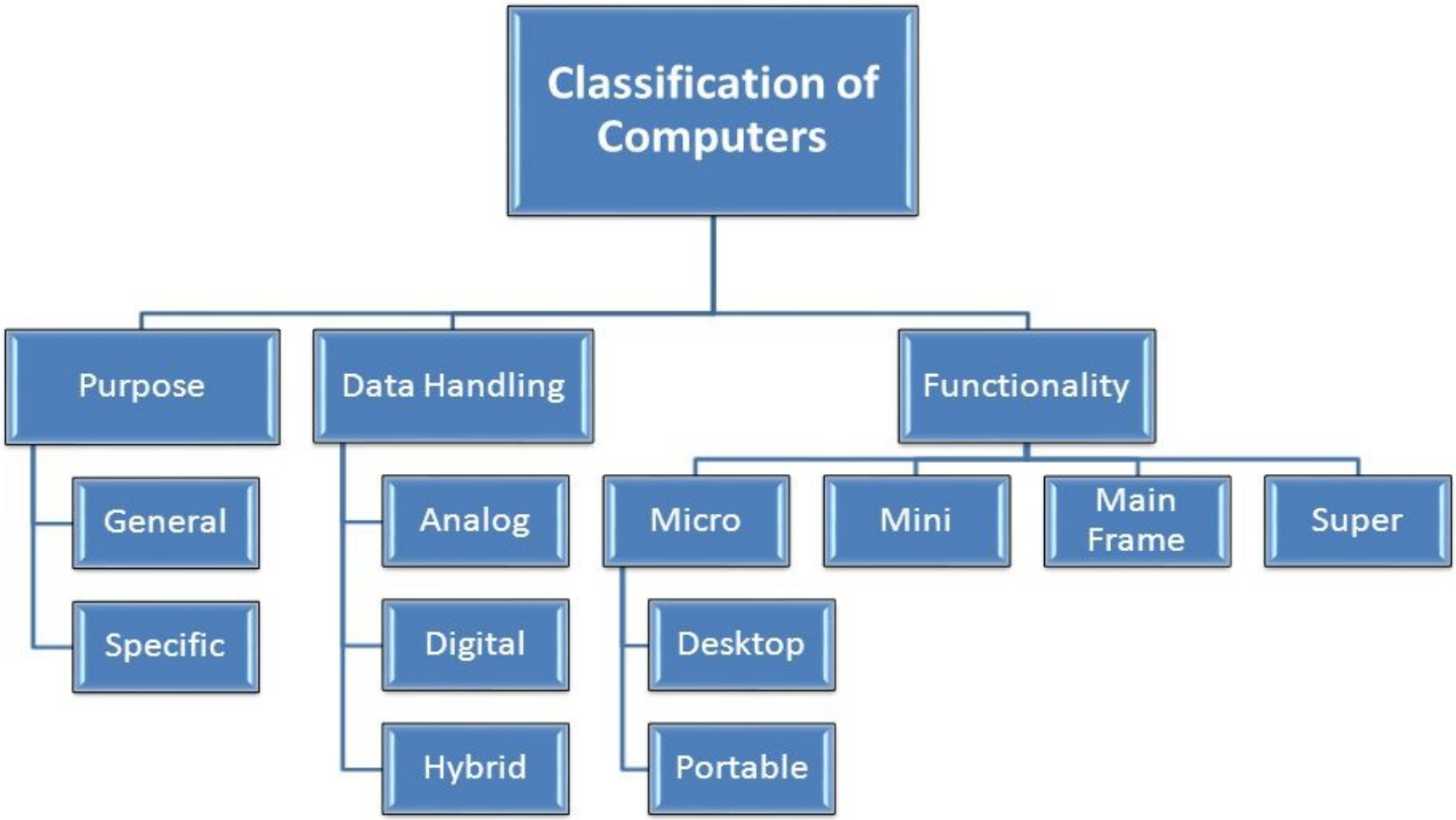


III. Classification of computer based on their purpose

A. General Purpose computers :- Designed for multipurpose functions such as salaries and wages, and processing the storage operation in factories and establishments, analyze sales for they are flexible to assure efficiency, commercial, scientific, medical, and engineering fields.

B. Special Purpose computers:- Designed for specific functions such as early alarm devise and computers used in industrial operations, which may be microcomputers or minicomputer.




Classification of Computers
Purpose
Data Handling
Functionality
General
Specific
Analog
Digital
Hybrid
Micro
Mini
Main Frame
Super
Desktop
Portable