Digitalization of Data

Digitalization is the process of converting information into digital format. This information may represent an object, image, sound, document or signal (usually and analog signal) organized into discrete set of its points or samples. This is binary data that computers and many devices with computing capacity can understand and process. Digitalization can also be defined as the integration of digital technologies into everyday life. Modern digital camera, television, mobile phones and computers are all examples of digital technology.

An analogue system uses a continuous signal that varies in amplitude to represent a variable such as voice or data, rather than having limited range of steps like a digital system. A digital system uses binary numeric system in which electronic pulses are represented by either 1 or high pulse or 0 for a low pulse. Digital systems can easily represent symbols such as alphanumeric characters that represent the real-world data, than the analog system.

- **HISTORY OF COMPUTER DEVELOPMENT**

Computers are machines that performs task or calculations according to a set of instructions, or program. The first fully electronic computers introduced in the 1940s, were huge machines that requires that requires team of people to operate. Compared to those machines we are having today, not only they are thousands of times faster, they can fit in anywhere like on your desk, laps or even in one's pocket. In early days when our ancestor lived in caves, counting was a problem. When they started using stones to count their animals or their possessions, they never knew that this will lead to the emergence of computer today,

human beings today started following a set of procedures to perform calculations with these stones, which lead to the creation of a digital counting device which was the predecessor of the first calculating device invented known as ABACUS.

- **TYPES OF COMPUTER**

We have four types of computer which they are being classified to by their sizes. They are

1. Micro computers
2. Mini computers
3. Mainframe computers
4. Super computers

1. Micro Computers

Micro computers are the most common computers used by people today, whether in a workplace, at school, or on a desk at home. They are the smallest class of computers. The term "micro computer" was introduced with the advent of single chip microprocessors. It uses single microprocessor mounted with memory chips as its central processing unit (CPU). These computers include:

- • Desktop computers
- • Game consoles
- • Laptops, tablet computers, notebook computers.
- • Smart phones, Palm tops, smart books, and PDAs (personal digital assistants).
- • Programmable calculator and so on.

- **COMPONENT OF COMPUTER: INPUT AND OUTPUT**

The basic components of the computer are briefly described below.
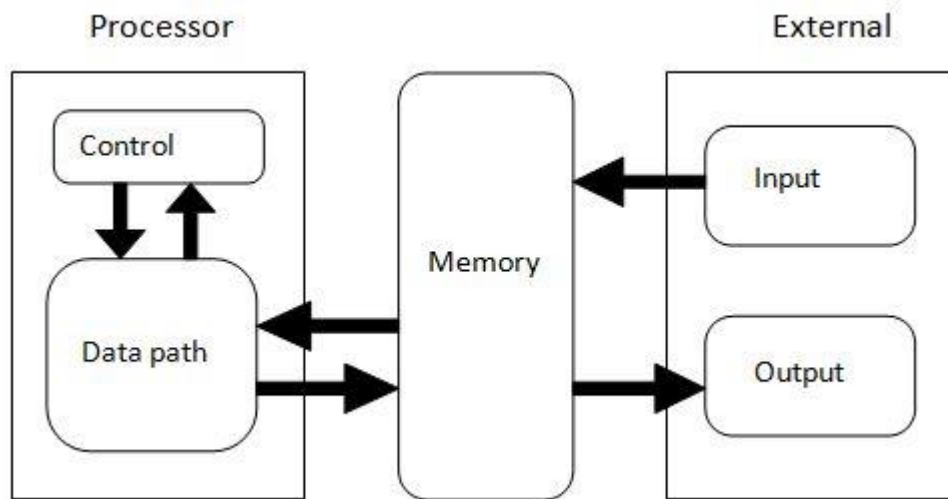

Diagram of the components of a computer

1. Data Path: manipulates the data coming through the processor. It also provides a small amount of temporary data storage. The data path consists of the following components.

a. Programmable registers

b. Program counters

c. Multiplexers

d. Processing elements

e. Special purpose registers

2. Control: generates control signals that direct the operation of memory and the data path, control tells the memory to send and receive data, it also tells the ALU what operation to perform and finally it routes data between different parts of the data path.

3. Memory: holds instruction and most of the data for currently executing programs.

4. Input: external devices such as keyboard, mouse, discs and networks that provide input to the processor is controlled and handled solely by the control of the input unit of the computer in order to receive data and know where it should be directed to.

5. Output: external devices such as displays, printer, disks and network that receive data from the processor handles the information that is coming from the processor and it is being directed to the place or device that should display it.

- SYSTEM UNIT

The system unit is the core of a computer system. Usually it's a rectangular box placed on or underneath your desk, inside the box are many electronic components that processes information. The most important of this box is the Central processing unit or micro processor, which acts as the brain of your computer. Another important component is the RAM (Random access memory) which temporarily stores information that the CPU uses while the computer is still on and running. The information in the RAM is erased when the computer is turned off.