BASIC COMPUTER

Content

What is computer?

DATA VS INFORMATION

DATA

Data is a **raw** and **unorganized** fact that required to be processed to make it meaningful.
Can be any form of character or words which is hardly to understand.
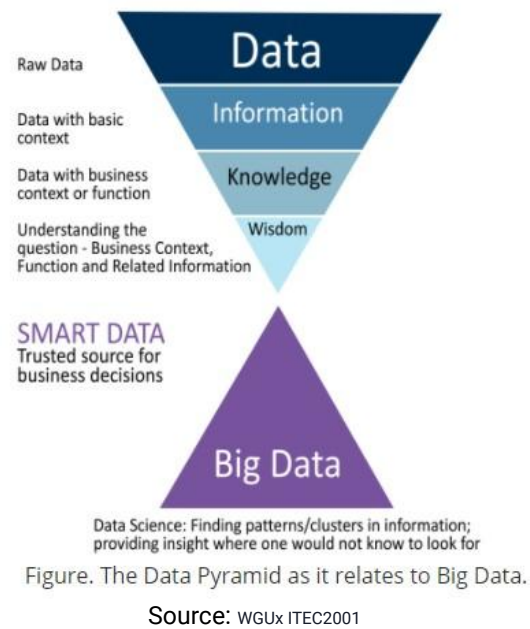Ex: Boy, F, 899, Teach, $

INFORMATION

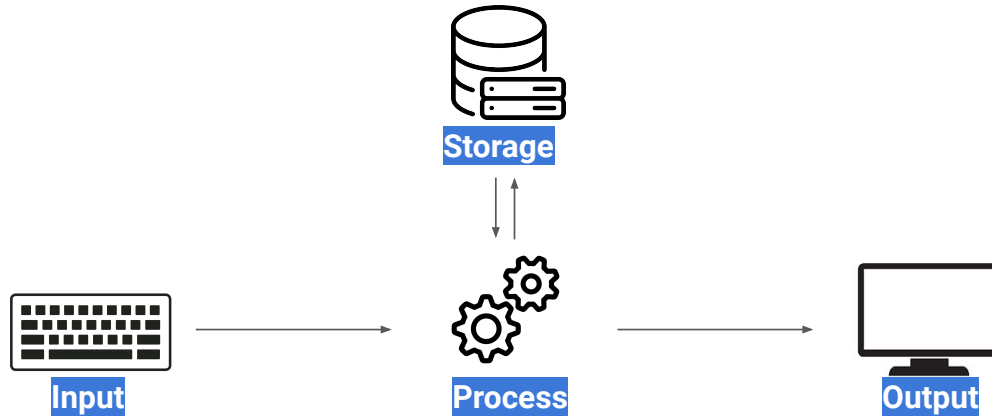Information is **a set of data** which is processed in a meaningful way according to the given requirement.
It is structured, relevant, useful and meaningful.
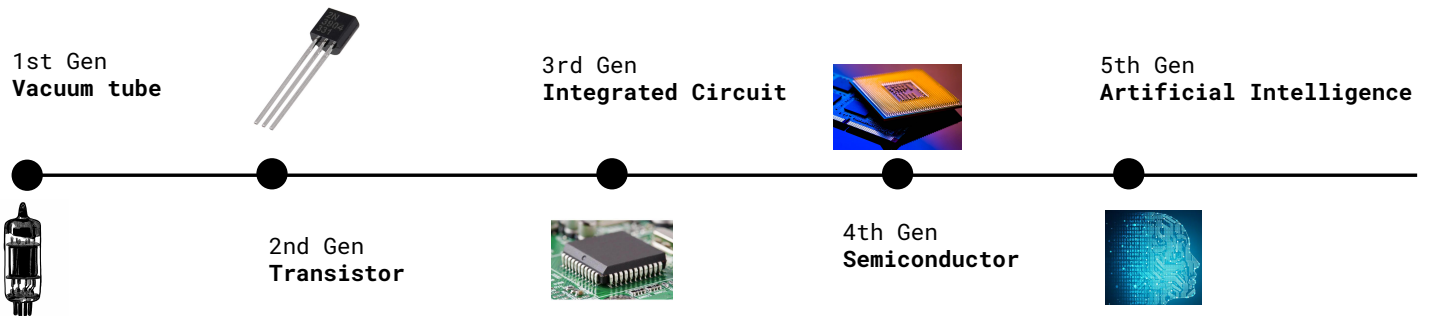Ex: The room 402 of building A of ITC is busy from 1-2 Monday this week.

Raw Data

Data with basic context

Data with business context or function

Understanding the question - Business Context, Function and Related Information

SMART DATA
Trusted source for business decisions

Data Science: Finding patterns/clusters in information; providing insight where one would not know to look for

Figure. The Data Pyramid as it relates to Big Data.

Source: WGUx ITEC2001

Computer is a computing device that can accept raw data from input, process the data to be purposeful information and produce result as output.

Computer System Input, Process, Output and Storage model (IPOS)

Storage

Input   Process   Output

5 generations of computer until now

1st Gen
Vacuum tube

3rd Gen
Integrated Circuit

5th Gen
Artificial Intelligence

2nd Gen
Transistor

4th Gen
Semiconductor

Some example of computers:

Desktop

laptop

Mobile phone

Computer Hardware

All physical components of computer that we can touch and see in real form.

Part 1:
Internal Devices

Central Processing Unit (CPU)

A **brain** of computer

The **Central Processing Unit (CPU)** is the electronic circuit responsible for executing computer program instructions.

CPU consists of three part:

-The **arithmetic / logic** unit : performs operations on data
Ex: addition, subtraction

-The **control** unit : coordinating the machine's activities

-The **resistor** unit : data storage cells for CPU called register

Nowaday, computer CPU is using **multi-core** technology.
Ex: the computer CPU has 2 cores mean it can perform 2 tasks at the same time.

Fact:
CPU and GPU consists many metal-oxide-silicon transistors

Ex:
AMD Ryzen 7 3700X
5,990,000,000 (2019)

Central Processing Unit (CPU)

Most popular CPU producer:

-**Intel**
Intel Core family
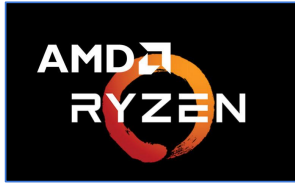Core i5, Core i7, Core i9 …

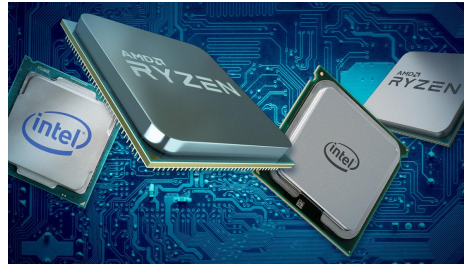

-**AMD**
Ryzen Family
Ryzen3, Ryzen 5, Ryzen 7 …

Tips:
-**Price**: Is it the price that meet our budget?

-**Technology**: Is it the last technology or the technology that computer uses?

-**Usability**: Can it run our program that we want to use?

Random Access Memory (RAM)

The internal memory of the CPU for storing data, program, and program result. (Source: www.tutorialspoint.com)

Ram is primary storage devices and volatile when the electricity is cut off, the data is lost. Or it called as temporary memory
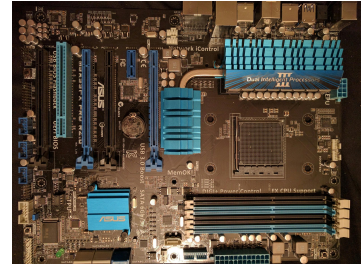
It has 2 type: **Dynamic and static**

Motherboard or main board

A **backbone** of computer

It **holds and allows communication** between many of the crucial electronic components of a system (Source: Wikipedia)

It consists of many important components of computer such as CPU, RAM, BIOS …

Summary

Computer is a computing device that can input data, process and output.

Hardware is all physical components that we can touch

Central Processing Unit (CPU) works like a brain to control and process the data inside computer

Random Access memory (RAM) is primary storage

Mainboard or Motherboard works like backbone

Motivation of today

"I hear and I forget. I see and I remember. I do and I understand."

- Chinese proverb"

Q & A