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SUBJECT: INTRO TO ICT

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TASK NO : 1

Computer:

A computer is a programmable device that stores, retrieves, and processes data. The term "computer" was originally given to humans (human computers) who performed numerical calculations using mechanical calculators, such as the abacus and slide rule. The term was later given to mechanical devices as they began replacing human computers. Today's computers are electronic devices that accept data (input), process that data, produce output, and store (storage) the results (IPOS).

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Computer



IMPORTANCE OF COMPUTER:

It is an important tool for science students, who generally rely on it in preparing their educational reports and projects.

GENERATION OF COMPUTER;

Generation in computer terminology is a change in technology a computer is/was being used. Initially, the generation term was used to distinguish between varying hardware technologies. Nowadays, generation includes both hardware and software, which together make up an entire computer system.

There are five computer generations known till date. Each generation has been discussed in detail along with their time period and characteristics. In the following table, approximate dates against each generation has been mentioned, which are normally accepted.

Following are the main five generations of computers.

S.No	Generation & Description
1	<u>First Generation</u> The period of first generation: 1946-1959. Vacuum tube based.
2	<u>Second Generation</u>

	The period of second generation: 1959-1965. Transistor based.
3	<u>Third Generation</u> The period of third generation: 1965-1971. Integrated Circuit based.
4	<u>Fourth Generation</u> The period of fourth generation: 1971-1980. VLSI microprocessor based.
5	<u>Fifth Generation</u> The period of fifth generation: 1980-onwards. ULSI microprocessor based.

FIRST GENERATION OF COMPUTER:

The first generation laptop was ENIAC (Electronic Numerical Integrator and Calculator). It had been the primary all-purpose electronic computer that is intended by William Mauchly and John Eckert in 1942. However, the machine was completed in 1945. It had been designed to calculate artillery firing tables to be utilized by us Army's trajectory

research lab to assist North American country troops throughout war II.

Structure :

The ENIAC pc was terribly serious and huge. Its size was a 50-foot-long basement area and its weight was thirty tons. It had over seventeen,000 vacuum tubes. Vacuum Tube Computers used tons of electricity. ENIAC consumed a hundred and fifty kilowatts of power, during which eighty kilowatts were used for heating tubes, forty-five kilowatts for DC power provides twenty kilowatts for ventilation blowers, and five kilowatts for punched-card electronic equipment.

Calculations :

The first use of ENIAC was to hold out arithmetic calculations. ENIAC was capable of doing 5000 additions per second. The ENIAC was decimal instead of a binary machine. Therefore, numbers were pictured in decimal kind, and arithmetic was performed within the decimal numeration system. Its memory consisted of twenty accumulators, every capable of holding a 10-digit decimal range. Every digit was pictured by a hoop of ten vacuum tubes.

Drawback of ENIAC :

The major downside of ENIAC was that its programming was advanced and time-wasting. It

absolutely was not a general-use laptop. To differ its program implied essentially reworking it, with punch cards and switches in wiring plugboards. It might take a team 2 days to reprogram the machine.

UNIVAC (Universal Automatic Computer) :

It was the world's 1st commercially electronic computing device. it absolutely was created by Eckert and Mauchly in 1947. It absolutely was delivered to the North American country Bureau of a census in 1951.

Advantages of First Generation of Computers :

The advantage of the primary generation of computers was that these computers quick and will calculate knowledge in milliseconds.

Disadvantages of First Generation of Computers :

- . Computers were larger.
- . They consumed an outsized quantity of energy.
- . They heated terribly shortly because of thousands of vacuum tubes.
- . They weren't terribly reliable.
- . Air learning is needed.
- . Constant maintenance was needed.
- . Not transportable.
- . Costly business production.

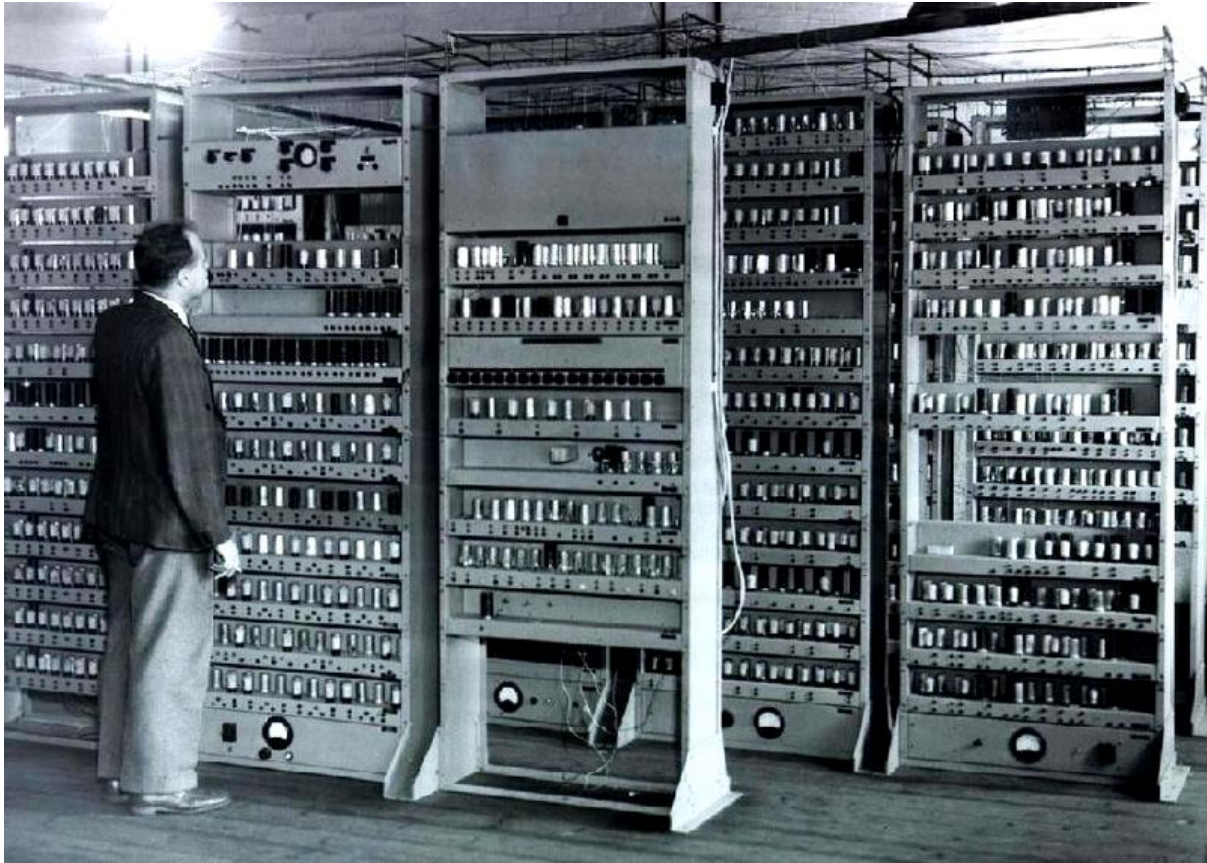
- Very less work potency.
- Limited programming capabilities.
- Use of punch cards.

Limitations of First Generation of Computers :

The operative speed was terribly low. Power consumption was terribly high. They needed an oversized area for installation. The Programming capability was quite low. Its process speed was conjointly low.

Conclusion :

Although the primary generation of computers has many disadvantages than its blessings. However, its importance can't be forgotten. As a result of when the primary generation of computers, the second generation of computers was created. Transistors were utilized in the second generation of computers. Several computers of the primary generation were made from 1946 to 1959. Th



SEACND GENRATON OF COMPUTER:

The second generation computers were used during 1957-1963. They are also known as transistor computers. The second generation of computers consists of two types of devices, transistors, and magnetic core. The transistors helped to develop a better computer than the first generation computers consisting of vacuum tubes. Some second generation of computers are IBM 1920, IBM 7094, CDC 1604, CDC 3600, IBM 1401, etc.

Characteristics of the second generation of computer are:

- **Smaller in size:** The Second generation of computers are much more smaller in size than the first generation computers.

- **Change in circuits:** The main change is the use of transistors in place of vacuum tubes(Vacuum tubes are used in first generation of computers).
- **Power/ Energy Requirement:** The second generation of computers requires less amount of energy (i.e. electricity) compared to the first generation of computers and produces less heat than the first-generation computer.
- **Language used:** Assembly language is used instead of Machine Language(used in first-generation computers) for programming in computers.
- **Speed:** Calculation of data could be done in microseconds.
- **Cost:** The cost of Second-generation computers is reduced in comparison to first-generation computers.

Advantages of second-generation computers:

- They are smaller in size as compare to the first generation.
- It is more reliable
- Uses less power and generates less heat.
- The speed of the second generation is faster as compared to the first generation.
- Second generation computers have improved accuracy and offer better portability.

Disadvantages of second-generation computers:

- As we know, that they generate less heat but still require a cooling system.
- They require frequent maintenance.
- The commercial production of second generation computers is difficult.
- They are used only for some specific purpose.
- They use punch cards for input.

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