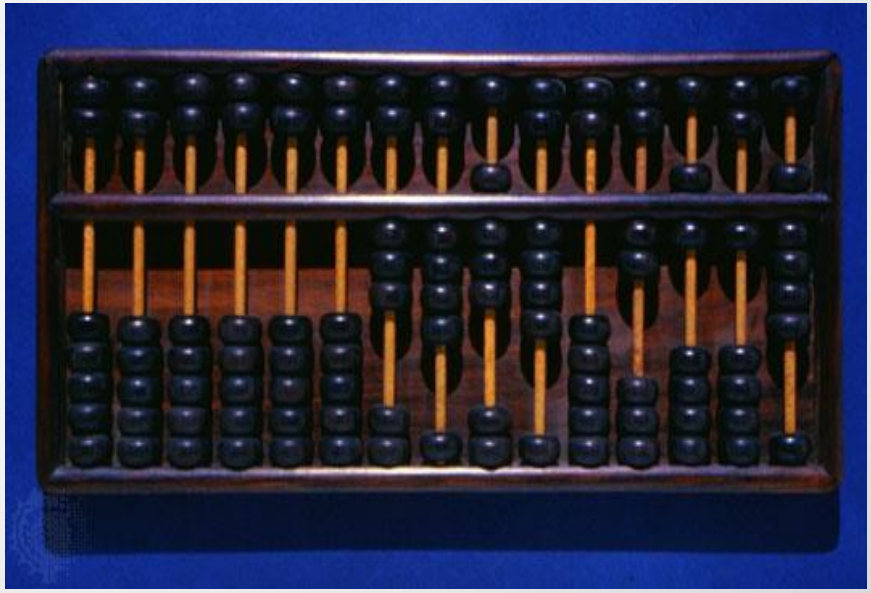
HISTORY OF COMPUTERS

ABACUS

- ✓ It is a mechanical device used to aid an individual in performing basic mathematical calculations.
- ✓ First used in China in around 500 B.C.

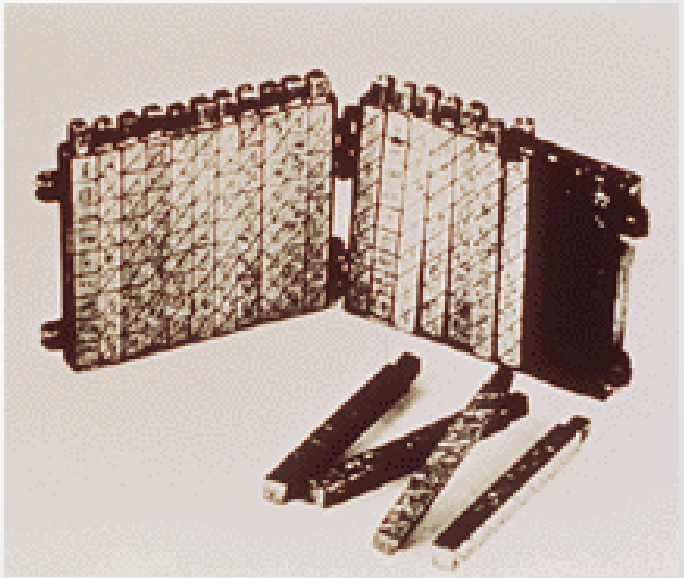


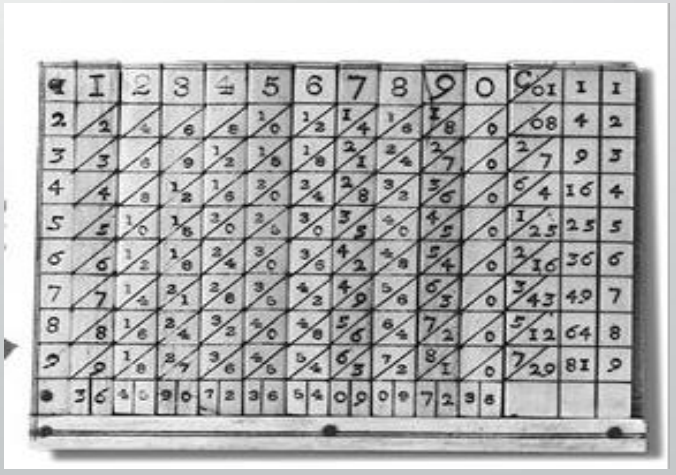
- ✓ Invented in Babylonia in 2400 B.C.

NAPIER'S BONES/RODS

1614- 1617

- ✓ Invented by John Napier
- ✓ Used to multiply, divide and calculate square and calculate cube roots by moving the rods around and placing them in specially constructed boards.

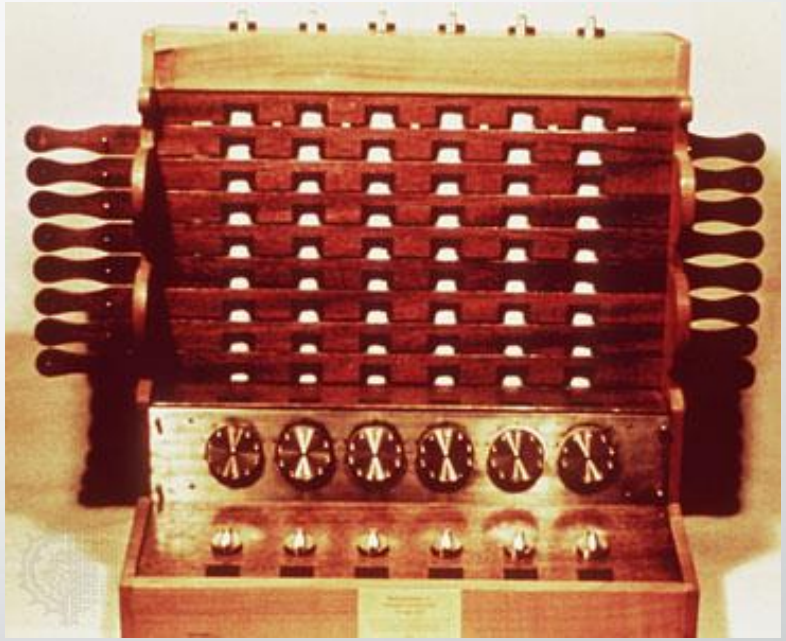




CALCULATING CLOCK

1623

- ✓Invented by Wilhelm Schickard
- ✓Used for adding and subtracting up to 6 digit numbers, and warned of an overflow by ringing a bell.



SLIDE RULE

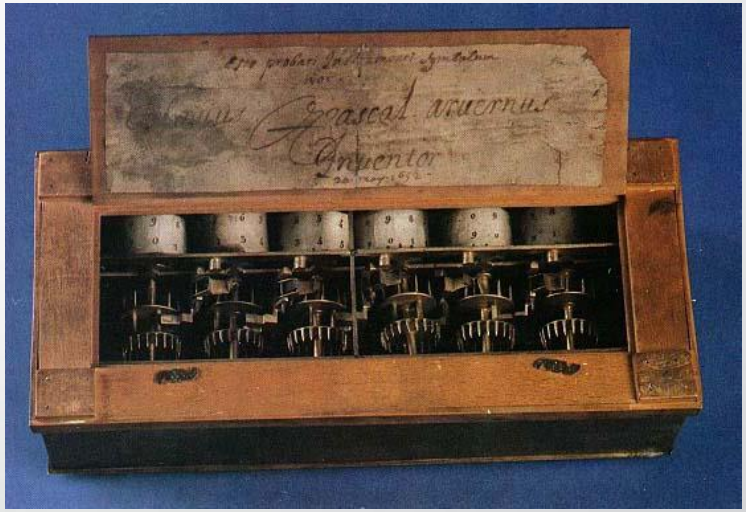
1622-1625

- ✓ Invented by William Oughtred
- ✓ Used primarily for multiplication, division, roots, logarithms and Trigonometry
- ✓ Based on Napier's ideas about logarithms.

PASCALINE

1642

- ✓ Invented by Blaise Pascal
- ✓ It can add, subtract, and carry between digits.
- ✓ A mechanical adding machine.



STEPPED RECKONER

1672

- ✓ Invented by Gottfried Wilhelm Leibniz.
- ✓ The machine that can add, subtract, multiply and divide automatically.

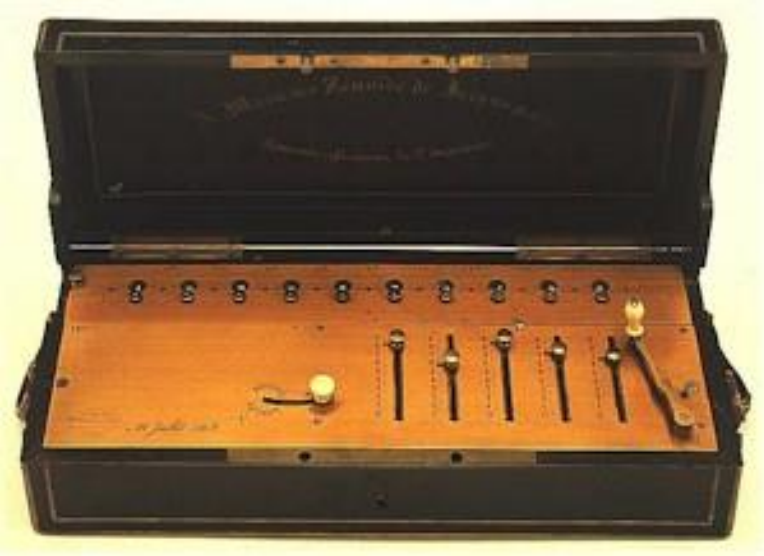
JACQUARDS LOOM

1801-1804

- ✓ It is a mechanical loom, invented by Joseph-Marie Jacquard.
- ✓ It an automatic loom controlled by punched cards.
- ✓ The first machine to use punched card.

ARITHMOMETER 1820

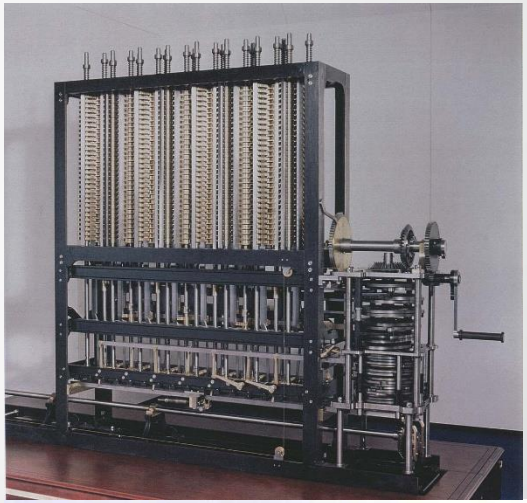
- ✓ A mechanical calculator invented by Thomas de Colmar.
- ✓ The first reliable, useful and commercially successful calculating machine.

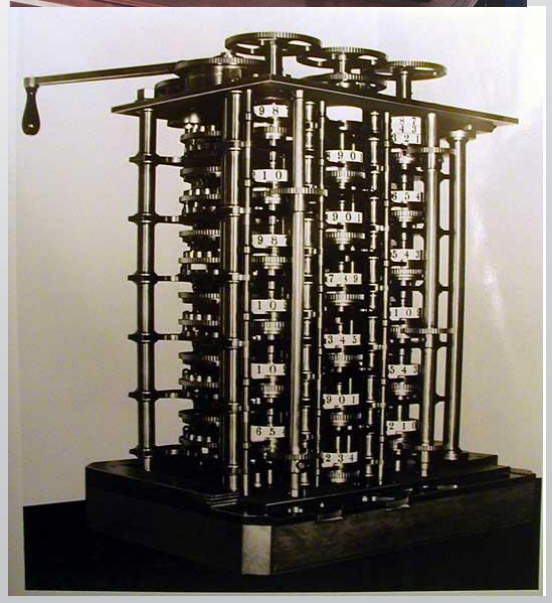


- ✓ The first mass-produced calculating machine.

DIFFERENCE ENGINE
ANALYTICAL ENGINE *1822*

- ✓ It an automatic, mechanical calculator designed to tabulate polynomial functions. Invented by Charles Babbage in 1822 and 1834.
- ✓ It is the first mechanical computer.



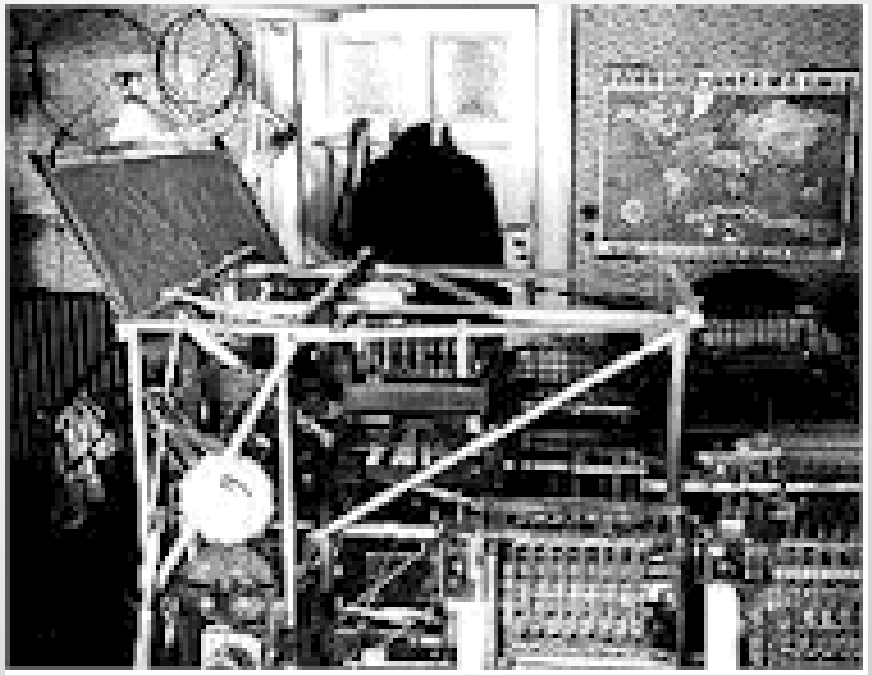


- ✓First lady Computer Programmer
- ✓Augusta Ada Byron suggested to Babbage that he use the binary system.
- ✓She has written programs for the Analytical Engine.

Augusta Ada Lovelace

Z1 *1936-1938*

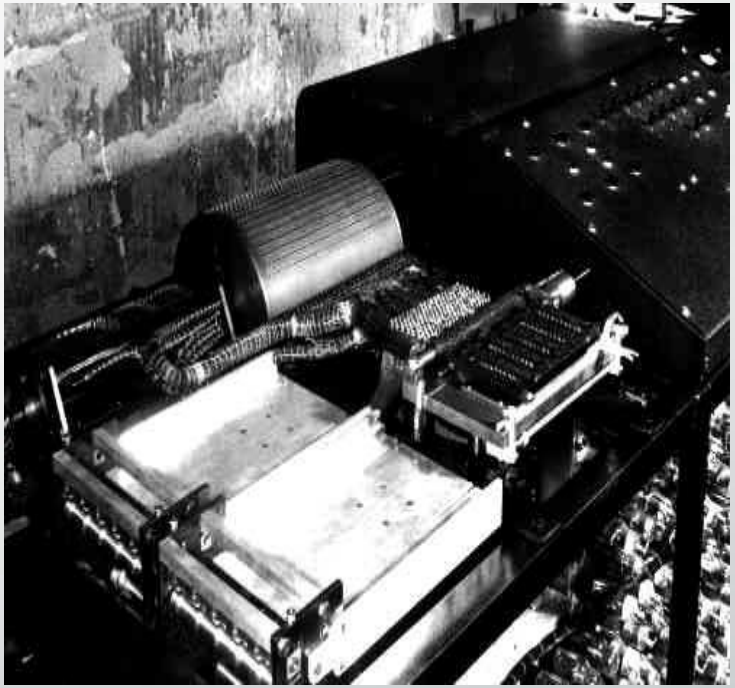
- ✓ Invented by Konrad Zuse.
- ✓ One of the first binary digital computers and a machine that could be controlled through a punch tape.



BINARY-BASED ABC

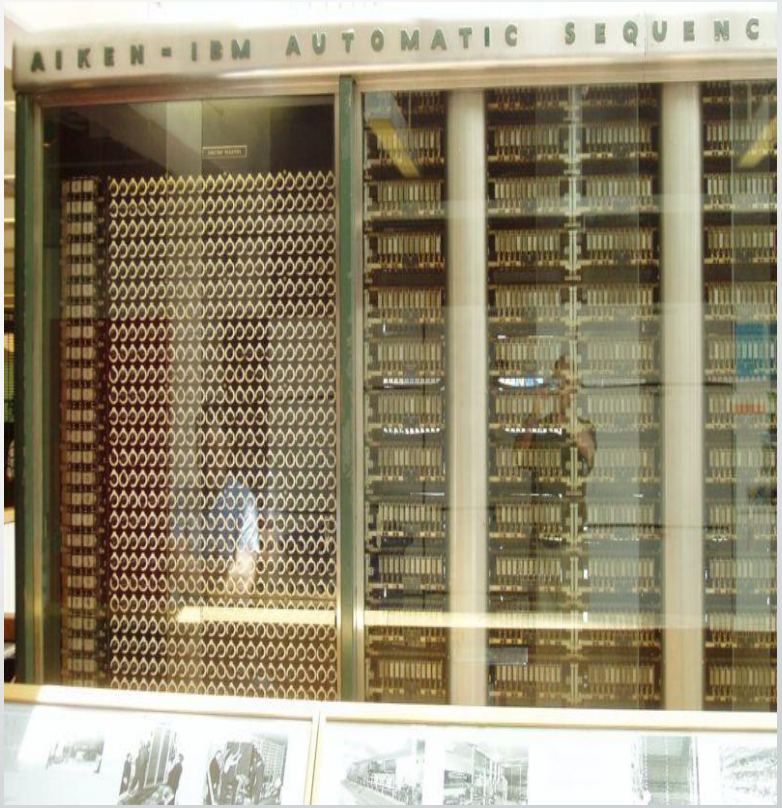
(Atanasoff-Berry Computer) *1937*

- ✓ Invented by John Vincent Atanasoff and Clifford Berry.
- ✓ Considered by most to be the first electronic digital computer.



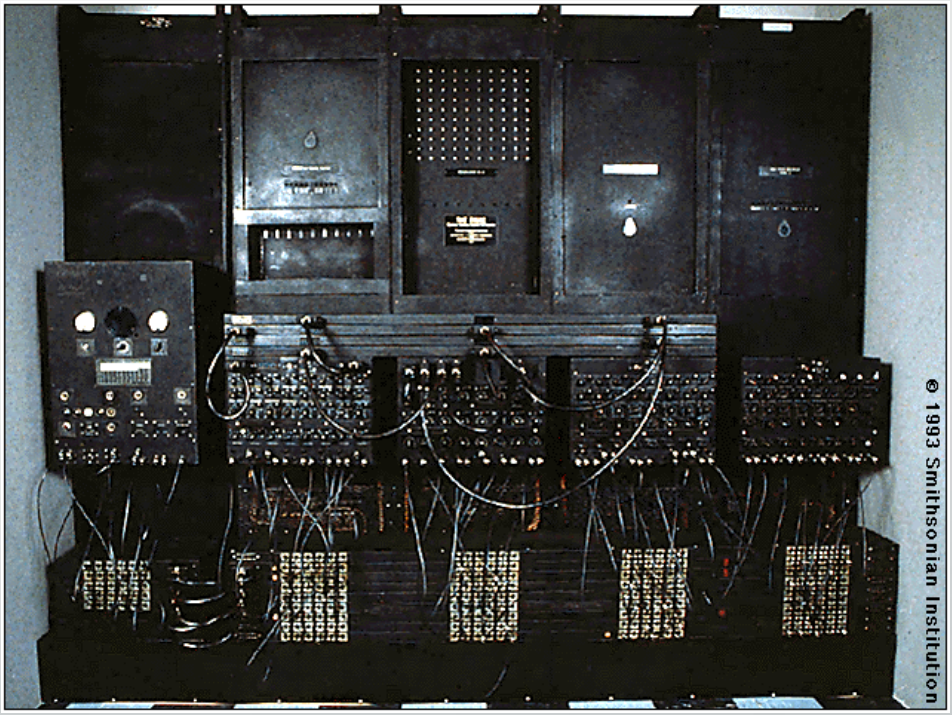
HARVARD MARK I 1943

- ✓ Invented by Howard Aiken.
- ✓ It was officially known as the IBM **A**utomatic **S**equence **C**ontrolled **C**alculator (ASCC).
- ✓ Commonly referred to as the Harvard Mark I.



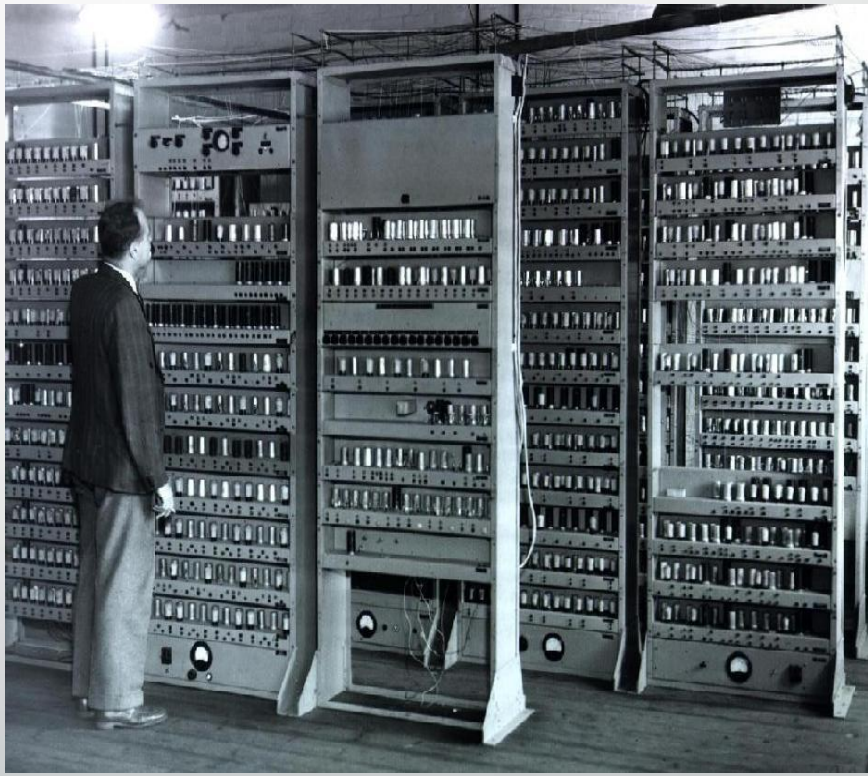
ELECTRONIC NUMERICAL INTEGRATOR AND COMPUTER *1946* (ENIAC)

- ✓Invented by Dr. Presper Eckert and Dr. John Mauchly.
- ✓This computer by most is considered to be the first general-purpose electronic computer.



Electronic Delay Storage Automatic Computer (EDSAC) *1949*

- ✓ It is considered to be the first stored program electronic computer.
- ✓ It was the computer that ran the first graphical computer game.



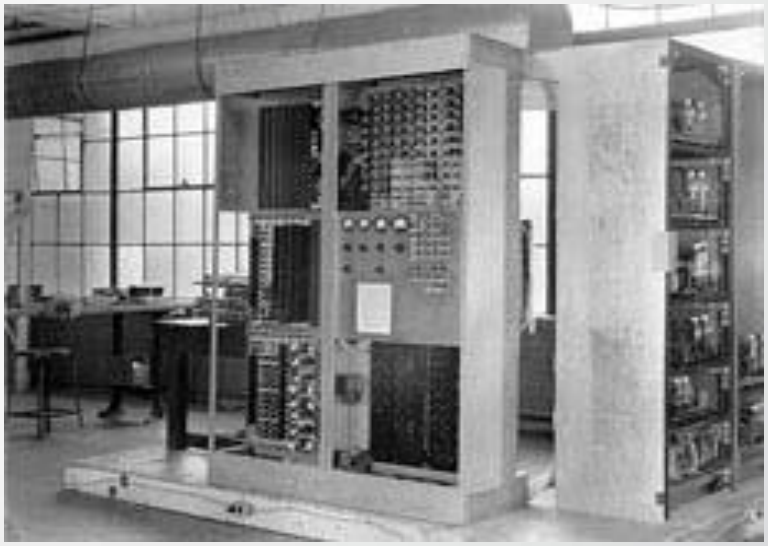
UNIVersal Automatic Computer (UNIVAC)

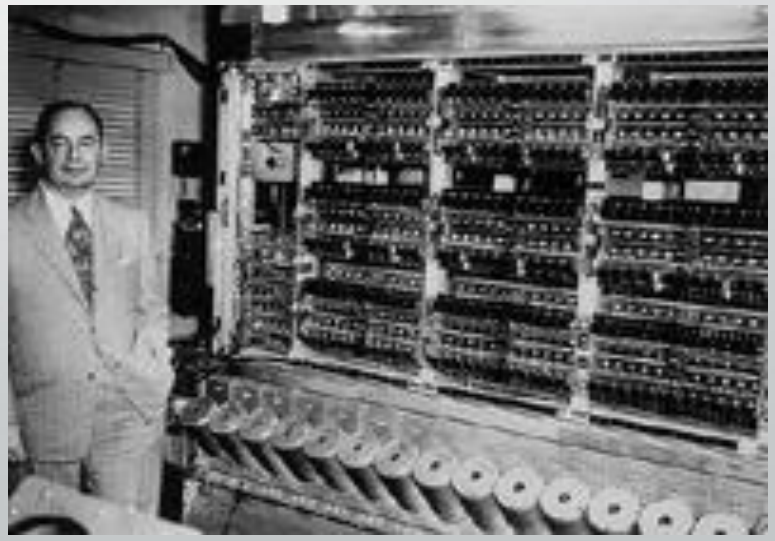
1951

- ✓ Invented by Dr. Presper Eckert and Dr. John Mauchly.
- ✓ It was the first commercial computer made in the United States.
- ✓ First general purpose computer - designed to handle both numeric and textual information.

Electronic Discrete Variable Automatic Computer (EDVAC) *1944*

- ✓ Invented by Dr. Presper Eckert and Dr. John Mauchly.
- ✓ It is the successor of the ENIAC.
- ✓ It was one of the earliest electronic computers.





IBM 701 EDPM Computer 1952

IBM first electric computer

Intel 4004 processor 1971

- ✓ The original engineering prototype of the Busicom desktop printing calculator, the world's first commercial product to use a microprocessor.
- ✓ The first mass-produced microprocessor.

Altair 8800

1975

- ✓ It is the first personal computer.
- ✓ It is produced by Micro Instrumentation and Telemetry Systems (MITS).

Apple I

1976

- ✓ The first Apple Computer.
- ✓ Designed by Steve Wozniak and Stephen Jobs

IBM 3800

1976

First laser printer introduced by IBM.

Osborne I

1980

The first portable computer or laptop.

Compaq Portable 1982

The first PC clone

Generations of Computer

Each generation of computer is characterized by a major technological development that fundamentally changed the way computers operate, resulting in increasingly smaller, cheaper, more powerful and more efficient and reliable devices.

First Generation - 1940-1956
Vacuum Tubes

- The first computers used vacuum tubes for circuitry and magnetic drums for memory, and were often enormous.
- They were very expensive to operate and in addition to using a great deal of electricity, generated a lot of heat, which was often the cause of malfunctions.

Second Generation - 1956-1963
Transistors

- *Transistor* is a device composed of semiconductor material that amplifies a signal or opens or closes a circuit.
- Second-generation computers moved from cryptic binary machine language to symbolic, or assembly, languages, which allowed programmers to specify instructions in words.

Third Generation - 1964-1971:
Integrated Circuits

- The development of the integrated circuit was the hallmark of the third generation of computers.
- Users interacted with third generation computers through keyboards and monitors and interfaced with an operating system.

Fourth Generation - 1971-Present: *Microprocessors*

- The microprocessor brought the fourth generation of computers, as thousands of integrated circuits were built onto a single silicon chip.
- Fourth generation computers also saw the development of GUIs, the mouse and handheld devices.

Fifth Generation - Present and *Beyond: Artificial Intelligence*

- Fifth generation computing devices, based on artificial intelligence such as voice recognition, biometrics that are being used today.
- Artificial Intelligence is the branch of computer science concerned with making computers behave like humans.