

History of Computers

- ❖ The first counting device was used by the primitive people. They used sticks, stones and bones as counting tools.
- ❖ As human mind and technology improved with time more computing devices were developed.
- ❖ Some of the popular computing devices starting with the first to recent ones are:
 - Abacus
 - Napier's Bones
 - Pascaline
 - Stepped Reckoner or Leibnitz wheel
 - Difference Engine
 - Analytical Engine
 - Tabulating Machine
 - Differential Analyzer
 - Mark I

HISTORY OF COMPUTERS

Source: *Illustration: Science/2002/201*

Pascaline-Mechanical adding machine (1642)



It is an ancient calculating device.
It is a four-wheel mechanical computing device.
It is still used in Turkey, Russia, and the Soviet countries for calculations.



It is a desktop mechanical adding machine and was developed by Blaise Pascal.

Punched cards data storage (1800s)



It is a card punched with holes to contain places that a computer can read data coded from the combination of holes. This was first used by Joseph Jacquard to automate his weaving factory.

Babbage-Analytical engine (1830s)



It is invented by Charles Babbage.
It is designed to store data and calculate to solve problems from calculations and data code.

ENIAC-Electronic computer (1946)



In 1946, John Mauchly and J. Presper Eckert introduced the ENIAC as an electronic computing machine.

Mark I-General purpose computer (1944)



This was invented in 1944 by Dr. Howard Aiken.
The data was based on programmable general purpose computer.

Hollerith - Tabulating machine (1890s)



This was invented by Herman Hollerith in 1890.
It is an electronic punched and used punched cards.

UNIVAC- US Census Department (1951)



It was developed and sold to the first commercial computer with a large amount of public attention.

EDVAC (Electronic Discrete Variable Automatic Computer) Stored Program Concept (1951)



Functionally, EDVAC was a binary serial computer with automatic addition, subtraction, multiplication, programmed division and automatic clocking with an electronic serial memory capacity of 1000 24-bit words.

IBM-701 (1953)



The internal memory contained 8000 24-bit words of electronic data memory and 8000 words of magnetic drum memory. IBM 701 used magnetic tape for storage and was one of the first computers to use U-shaped magnetic tape.

Apple II- First personal computer (1977)



The Apple II is an 8-bit home computer and one of the world's first highly successful mass-produced microcomputer products.

Multimedia Desktop Computers (1990s)



It has huge memory power that is running many data programs. It has high quality graphics and sound for entertainment.

Portable computers (1987)



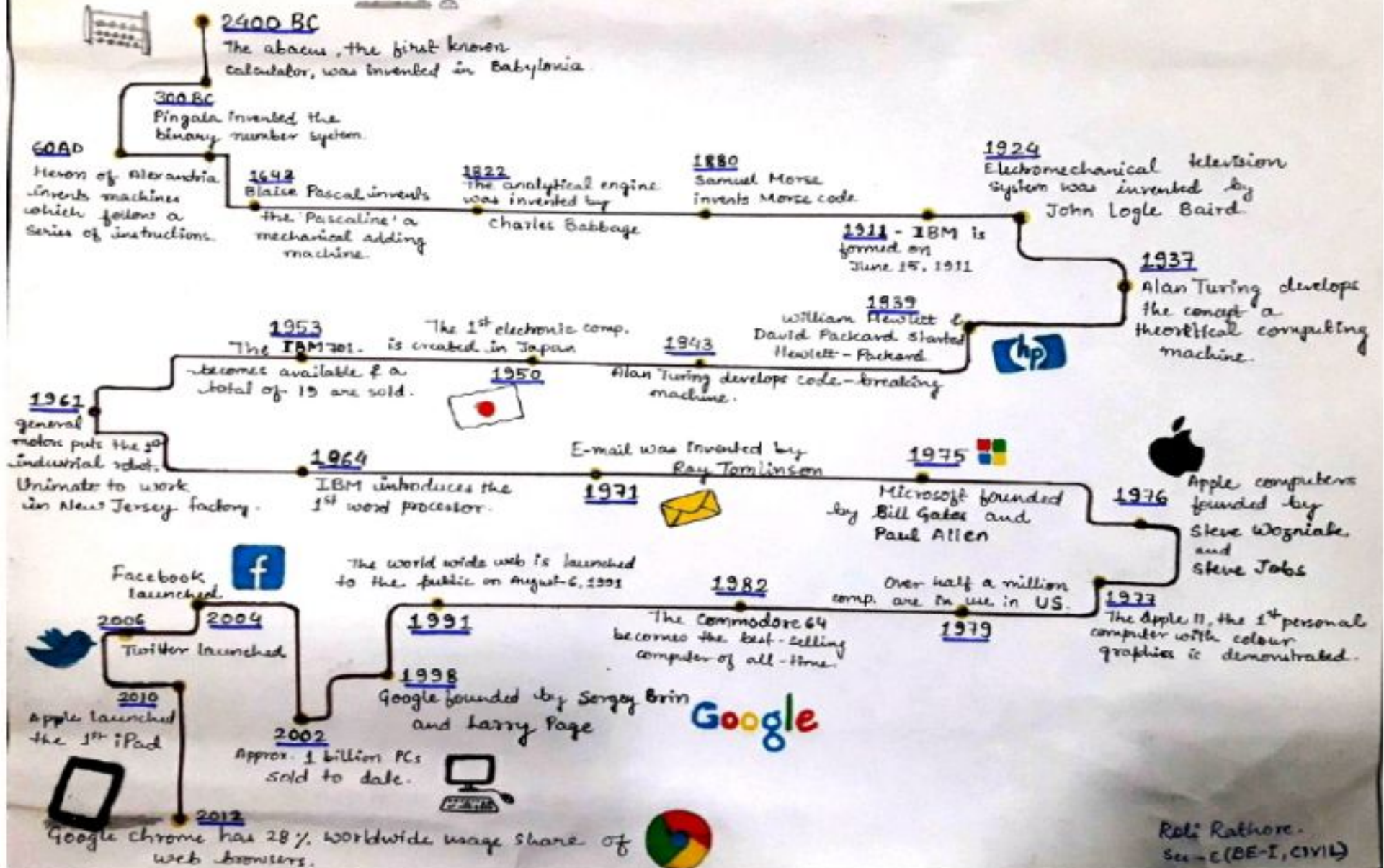
A portable computer is a computer that comes with a keyboard and a screen and can be used anywhere.

IBM-PC (1981)



It was the first IBM PC and was the first IBM PC. It had a 2.0MB hard drive and a 1.44MB floppy disk.

A brief history of COMPUTERS



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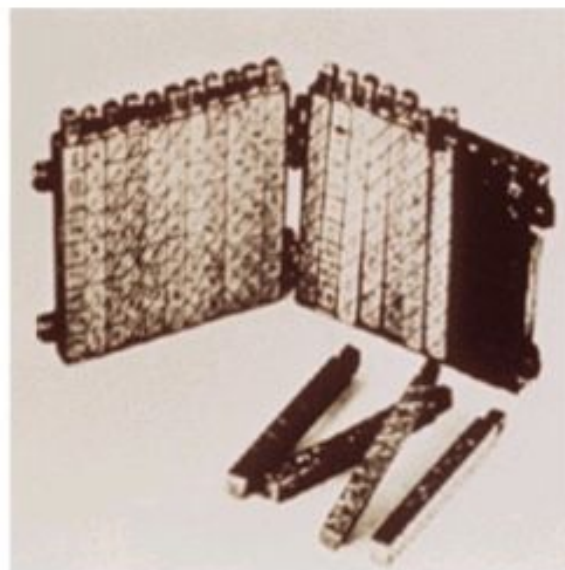
Abacus

- ❖ The history of computer begins with the birth of abacus which is believed to be the first computer and was invented by Chinese around 4,000 years ago.
- ❖ It was a wooden rack which has metal rods with beads mounted on them.
- ❖ The beads were moved by the abacus operator according to some rules to perform arithmetic calculations.
- ❖ Abacus is still used in some countries like China, Russia and Japan.



Napier's Bones

- ❖ It was a manually-operated calculating device which was invented by John Napier (1550-1617) of Merchiston.
- ❖ In this calculating tool, he used 9 different ivory strips or bones marked with numbers to multiply and divide. So, the tool became known as "Napier's Bones".
- ❖ It was also the first machine to use the decimal point.



Pascaline

- ❖ Pascaline is also known as Arithmetic Machine or Adding Machine.
- ❖ It was invented between 1642 and 1644 by a French mathematician-philosopher Blaise Pascal.
- ❖ It is believed that it was the first mechanical and automatic calculator.
- ❖ Pascal invented this machine to help his father, a tax accountant.
- ❖ It could only perform addition and subtraction.
- ❖ It was a wooden box with a series of gears and wheels. When a wheel is rotated one revolution, it rotates the neighboring wheel.
- ❖ A series of windows is given on the top of the wheels to read the totals.



Stepped Reckoner or Leibnitz wheel

- ❖ It was developed by a German mathematician-philosopher Gottfried Wilhelm Leibnitz in 1673.
- ❖ He improved Pascal's invention to develop this machine.
- ❖ It was a digital mechanical calculator which was called the stepped reckoner as instead of gears it was made of fluted drums.



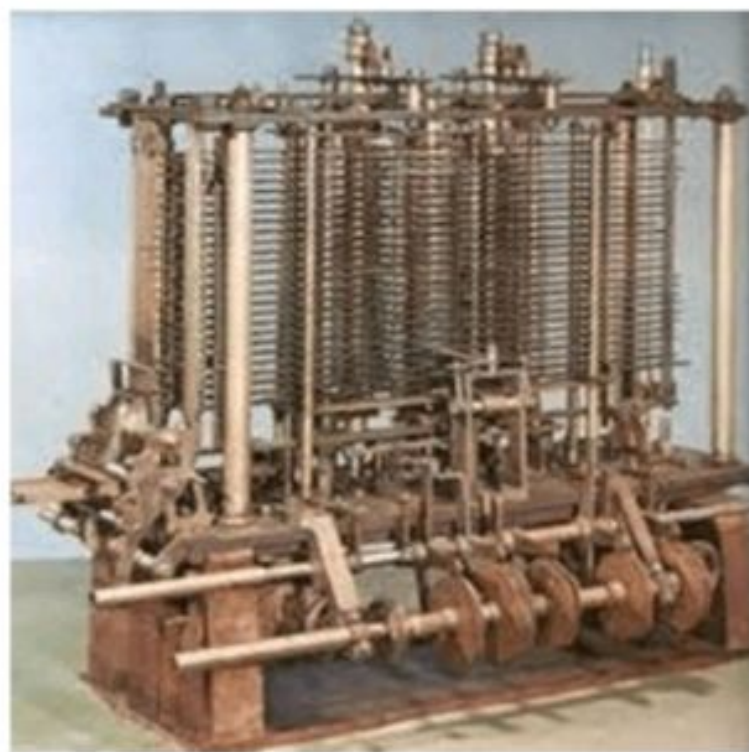
Difference Engine

- ❖ In the early 1820s, it was designed by Charles Babbage who is known as "Father of Modern Computer".
- ❖ It was a mechanical computer which could perform simple calculations.
- ❖ It was a steam driven calculating machine designed to solve tables of numbers like logarithm tables.



Analytical Engine

- ❖ This calculating machine was also developed by Charles Babbage in 1830.
- ❖ It was a mechanical computer that used punch-cards as input.
- ❖ It was capable of solving any mathematical problem and storing information as a permanent memory.



Tabulating Machine

- ❖ It was invented in 1890, by Herman Hollerith, an American statistician.
- ❖ It was a mechanical tabulator based on punch cards.
- ❖ It could tabulate statistics and record or sort data or information.
- ❖ This machine was used in the 1890 U.S. Census.
- ❖ Hollerith also started the Hollerith?
- ❖ Tabulating Machine Company which later became International Business Machine (IBM) in 1924.



Differential Analyzer

- ❖ It was the first electronic computer introduced in the United States in 1930.
- ❖ It was an analog device invented by Vannevar Bush.
- ❖ This machine has vacuum tubes to switch electrical signals to perform calculations.
- ❖ It could do 25 calculations in few minutes.



Mark I

- ❖ The next major changes in the history of computer began in 1937 when Howard Aiken planned to develop a machine that could perform calculations involving large numbers.
- ❖ In 1944, Mark I computer was built as a partnership between IBM and Harvard.
- ❖ It was the first programmable digital computer.

