



पुर्णमा International School

Shree Swaminarayan Gurukul, Zundal

Class - V

Super Computer

Year- 2020-21

1. The History of Computer

• Focus of the Chapter

1. Abacus
2. Napier's bones
3. Pascaline
4. Difference engine
5. Analytical engine
6. Tabulating machine
7. ENIAC

• Topics

1. Definition of computer
2. Earliest computer
3. Computer History
4. Computer Generations

• Definition of Computer

- Computer is a programmable machine.
- Computer is a machine that manipulates data according to a list of instructions.
- Computer is any device which aids humans in performing various kinds of computations or calculations.

• Definition of Computer

Three principles characteristic of computer:

- It responds to a specific set of instructions in a well- defined manner.
- It can execute a pre-recorded list of instructions.
- It can quickly store and retrieve large amounts of data.

• Earliest Computer

- Originally calculations were computed by humans, whose job title was computers.
- These human computers were typically engaged in the calculation of a mathematical expression.
- The calculations of this period were specialized and expensive, requiring years of training in mathematics.
- The first use of the word "computer" was recorded in 1613, referring to a person who carried out calculations, or computations, and the word continued to be used in that sense until the middle of the 20th century.

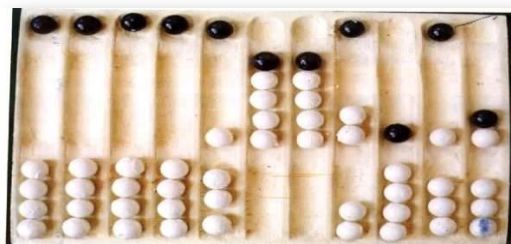
• Tally Sticks

- A **tally stick** was an ancient memory aid device to record and document numbers, quantities, or even messages.



Abacus

- An abacus is a mechanical device used to aid an individual in performing mathematical calculations.
- The abacus was invented in Babylonia in 2400 B.C.
- The abacus in the form we are most familiar with was first used in China in around 500 B.C.
- It used to perform basic arithmetic operations



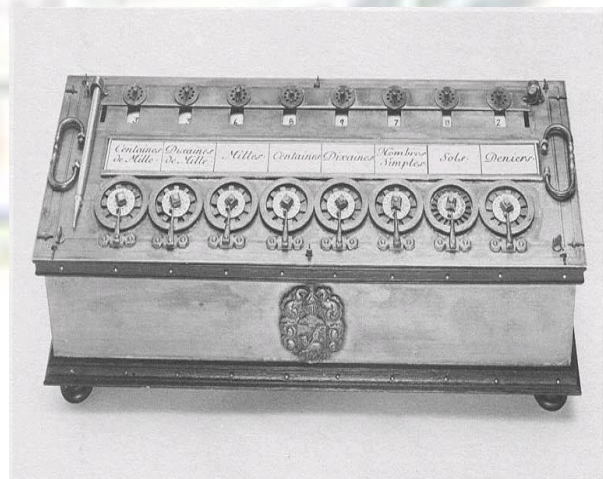
Napier's Bones

- Invented by John Napier in 1614.
- Allowed the operator to multiply, divide and calculate square and cube roots by moving the rods around and placing them in specially constructed boards.



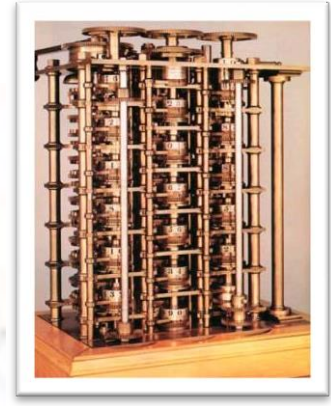
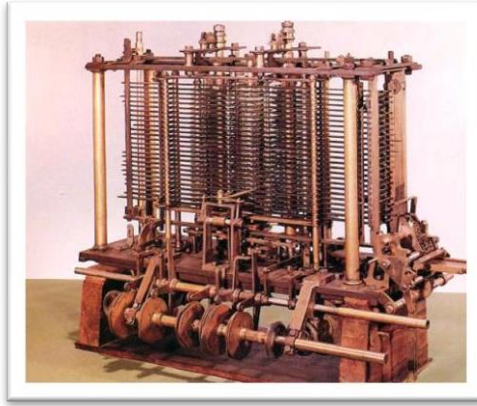
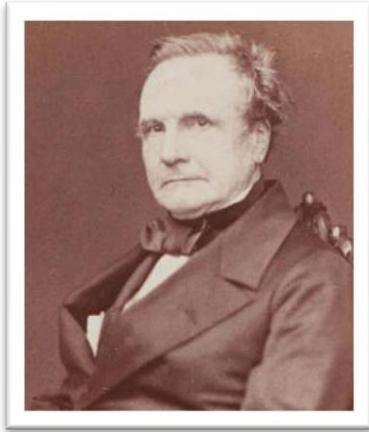
Pascaline

- Invented by **Blaise Pascal** in 1642.
- It was its limitation to addition and subtraction.
- It is too expensive.



- **Difference Engine and Analytical Engine**

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



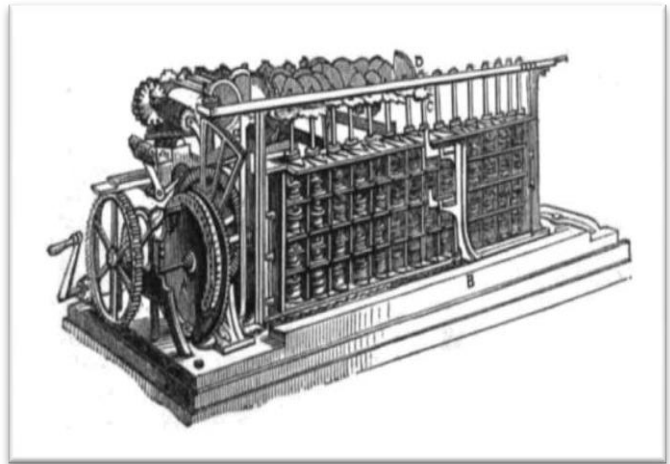
- **First Computer Programmer**

- In 1840, Augusta Ada Byron suggests to Babbage that he use the binary system.
- She writes programs for the Analytical Engine.



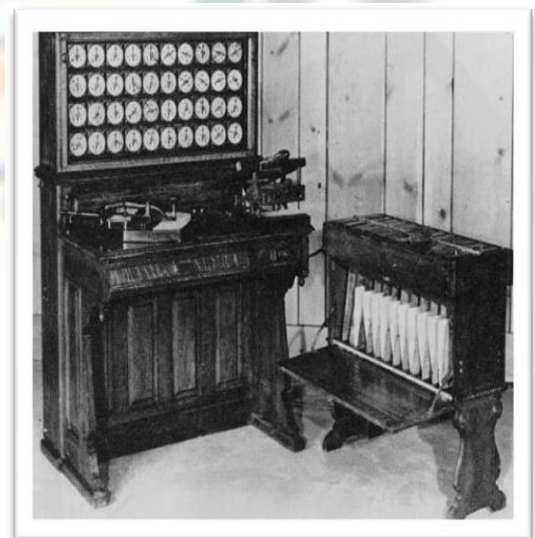
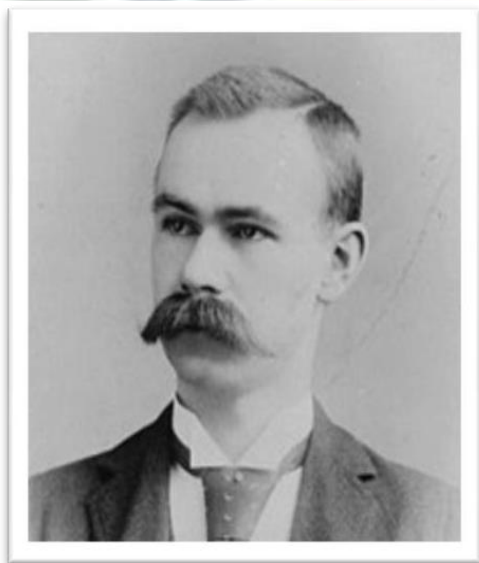
- **Scheutian Calculation Engine**

- Invented by Per Georg Scheutz in 1843.
- Based on Charles Babbage's difference engine. The first printing calculator.



- **Tabulating Machine**

- Invented by Herman Hollerith in 1890. To assist in summarizing information and accounting.



• The First Portable Computer

- Osborne 1 – the first portable computer.
- Released in 1981 by the Osborne Computer Corporation.



• Computer Generations

There are five generations of computer:

- First generation – 1946 - 1958
- Second generation – 1959 - 1964
- Third generation – 1965 - 1970
- Fourth generation – 1971 - today
- Fifth generation – Today to future

Keywords

- Abacus – a simple device made up of a frame with rods having a definite number of beads on each rod.
- Punched card - a card that holds data in the form of small punched holes.

Exercise Corner

A. Tick (✓) the correct answer.

- Which of the following devices was invented by the Chinese to count large numbers?
 - Abacus ✓
 - Napier's bones
 - Pascaline
 - Tabulating machine
- Which of the following materials was used to make the rectangular rods of Napier's bones?
 - bones ✓
 - ivory
 - metal
 - wood
- Who invented the tabulating machine?
 - Blaise Pascal
 - John Napier
 - Herman Hollerith ✓
 - Charles Babbage
- In which form the input was fed into tabulating machines?
 - data cards
 - hole cards
 - chips
 - punched cards ✓
- Who is known as the 'father of computer'?
 - Blaise Pascal
 - John Napier
 - Herman Hollerith
 - Charles Babbage ✓
- Which of the following was the first electronic computer developed in 1946?
 - UNIVAC
 - Difference engine
 - ENIAC ✓
 - Analytical engine

B. Fill in the blanks.

- The Chinese developed the abacus.
- The Pascaline was invented by Blaise Pascal in the year 1642.
- The Difference engine was one of the earliest automatic calculators.
- The Mill engine was the calculating unit in the analytical engine.
- The UNIVAC was the first commercially available computer.

C. Name these early calculating devices.

1. Pascaline
2. Abacus
3. Difference engine
4. Analytical engine
5. Tabulating engine

E. Read the clues and fill in the boxes.

1. Abacus
2. Pascaline
3. Difference engine
4. Analytical engine

