

**Functions of computer:-** Any computer is supposed to carry out following functions .

- a) Accepting the data as input.
- b) Storing the data and instructions in its memory and recalling the same as and when required.
- c) Processing the data as per instructions to convert it into useful information.
- d) Communicating the information as output.

**Limitations of computer:-**

- a)It cannot think and make any decision on its own.
- b)It cannot perform anything outside the defined scope.
- c)Computers do not have the potential to work out an alternative solutions.

History of computer:-

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3000 BC ABACUS

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1642 Pascal's Mechanical Calculator (Adding Machine)

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1804 Jacquard's Loom

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1833 Babbage's Analytical Engine

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1945 Computer with punch card

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1949 General Purpose Machine

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1951 Commercial Machine

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1968 Mini Computer

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1974 Micro Computer

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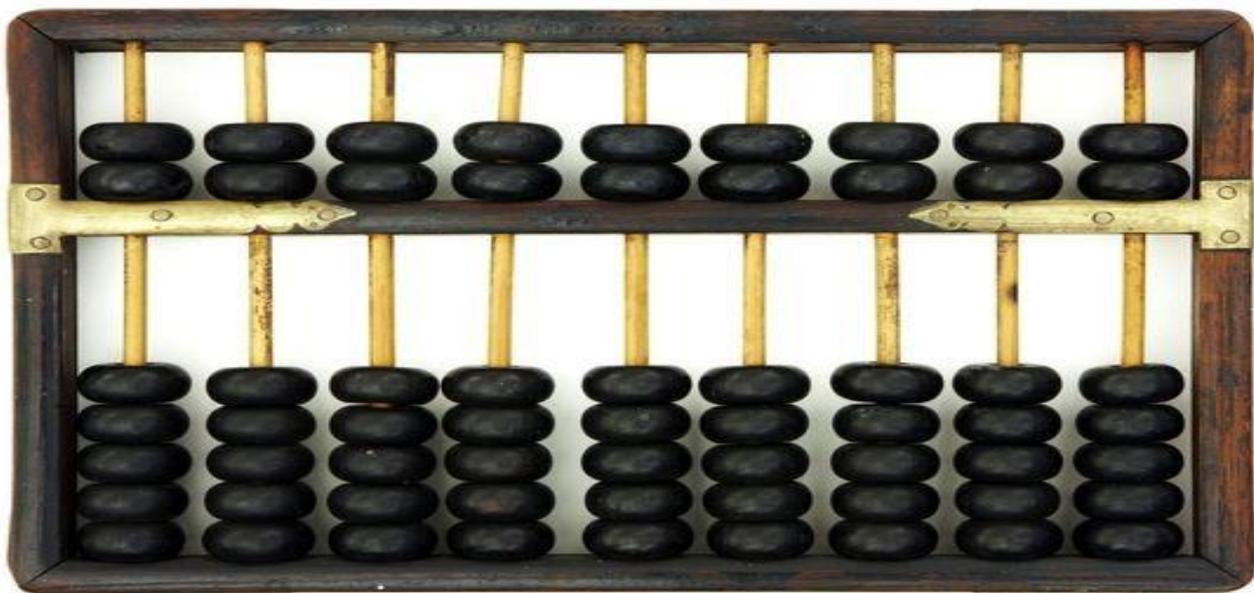
1979 Portable Computer

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1980 Super Computer

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**ABACUS :-** The earliest and the simplest device that was used for calculations was the abacus. Abacus has been in use since 3000 BC. It was developed in China. ABACUS was a clay board consisted of beads that could slide over wires. The wires represented columns and rightmost column represented UNITS, next column for TENS and so on. By moving appropriate beads one could represent various numbers.



Pascal's Adding Machine:- Mechanical device include Blaise Pascal's adding machine (1642) which was operated by dialing wheels and Gottfried Witham Von Leibnitz's stepped calculator (1694). This stepped calculator could also multiply and divide apart from normal operations like subtraction and addition. This machine mainly consisted of a row of toothed wheels. These were numbered from 0 to 9. The machine could add eight columns of numbers.



The Analytical Engine by Babbage:- It was general purpose computing device which could be used for performing any mathematical operation automatically. It consisted of the following components.

The Store:- A mechanical memory unit consisting of counter wheels.

The Mill:- An arithmetic unit which is capable of performing the four basic arithmetic operations.

Card:- There are basically two types of cards:

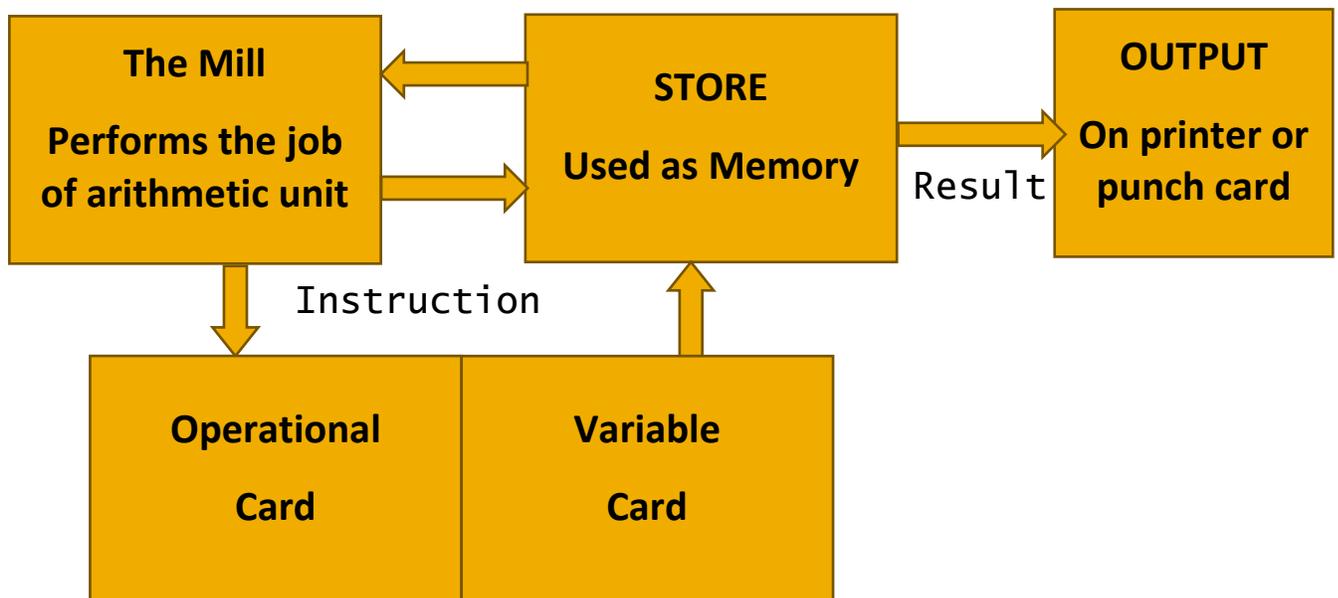
- (a) Operational Cards:- Selects one of the four arithmetic operation by activating THE MILL to perform the selected operation.

(b) Variable Cards:- Selects the memory locations to be used by THE MILL or a particular operation (i.e. the source of the operands and the destination of the results).

Output:- Output could be directed to a printer or a card punch device.

The Babbage machine is fundamentally the same as a modern computer. But unfortunately Babbage work could not be completed.

Note:- Charles Babbage is called the Father of Computer.



**Mark I** :- In 1934 Harvard Professor Howard Eiken, built an automatic calculating machine which was called Mark I digital computer. Its internal operations were automatically

controlled. Mark I was the realization of Babbage's dream long after his death.

**ENIAC:-** The ENIAC (Electronic Numerical Integrator And Calculator) was designed in 1945 at the university of Pennsylvania to calculate figures for thousands of gunnery tables required by the US army for accuracy in artillery fire. It could perform 5000 additions or 500 multiplication per minutes. It used thousands of vacuum tube (18000), weighed 30 tons, occupied a number of rooms (15sqft space), needed a great amount of electricity and emitted excessive heat.

