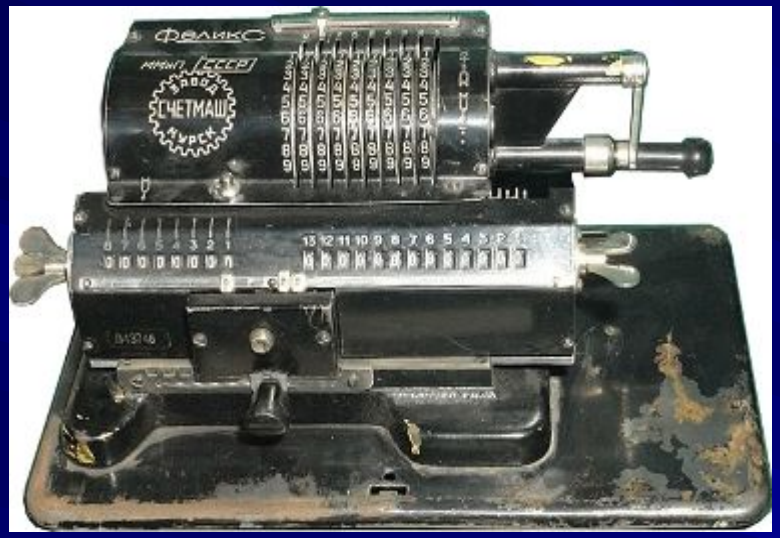
History of computers

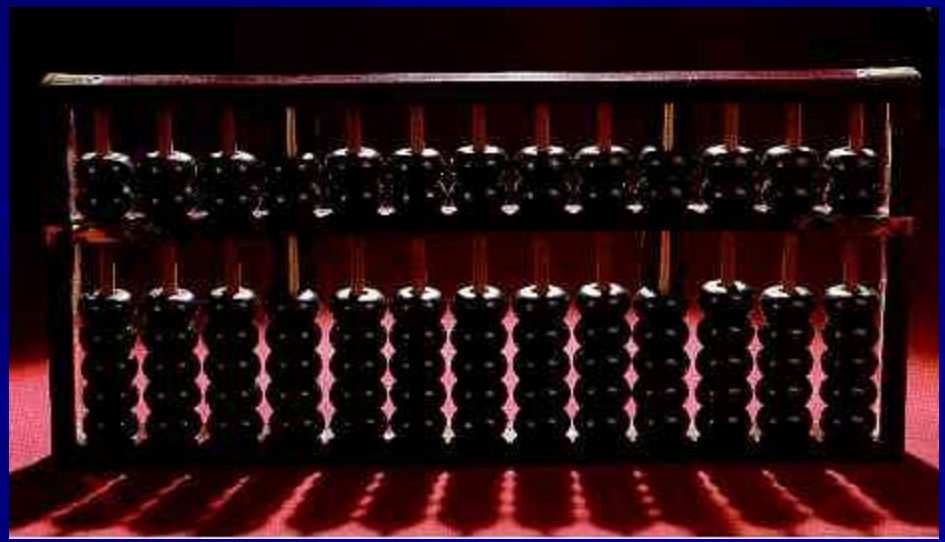
THE VERY FIRST CALCULATING DEVICE

The first calculating devices

The first calculating device was the abacus, a bead frame in which the beads are moved from left to right. People went on using some form of abacus well in the 16th century. In fact, the oldest abacus was used in 300 B.C. by the Babylonians. The abacus is still in use today, principally in the far east.

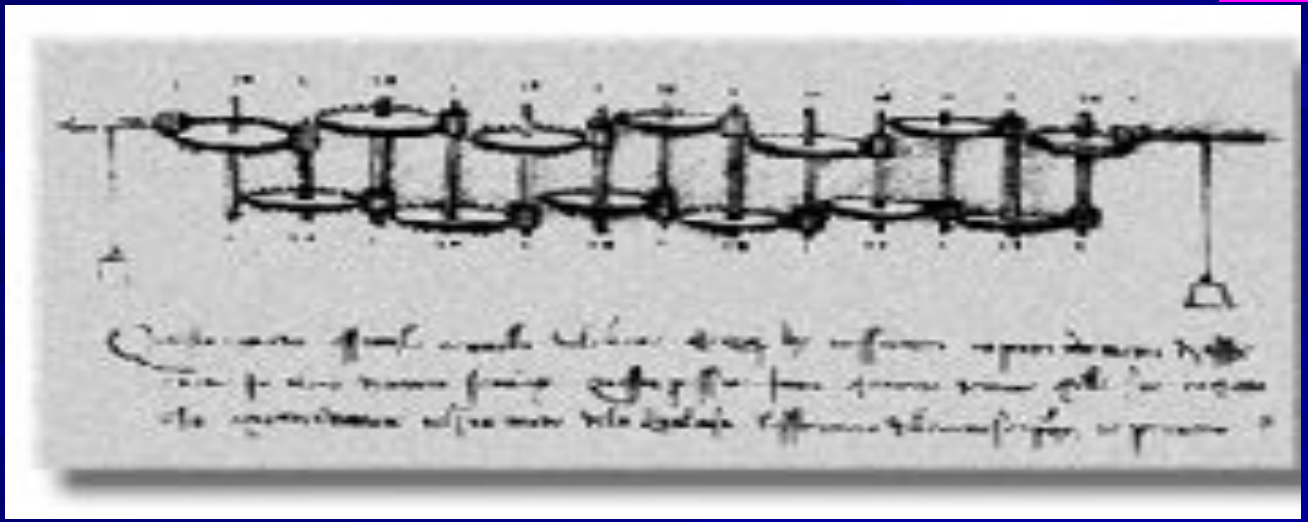
THE FIRST CALCULATING DEVICES





LEONARDO DA VINCI

In XV century *Leonardo da Vinci* invented the summing device with gear wheels carrying out addition of 13-digit numbers.



WILHELM SCHICKARD

In XVI century the German professor *Wilhelm Schickard* invented summing «calculating clock». It carried out addition and multiplication of 6-digit numbers.

JOHN NAPIER

V. G. LEIBNIZ

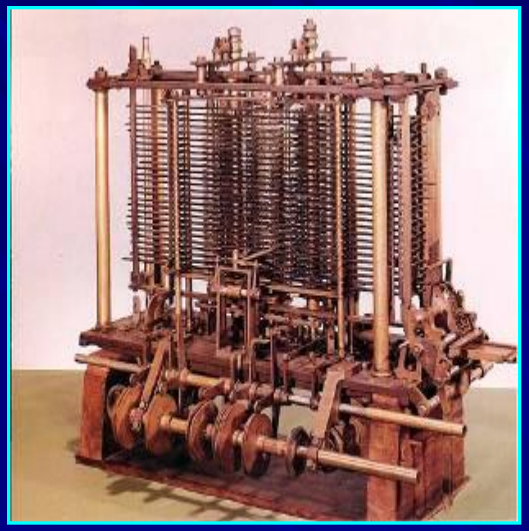
In 1671 Leibniz, a German mathematician and philosopher invented the mechanical adding device which was capable of also doing multiplication, division and the evaluation of square roots by a series of stepped additions, not unlike the methods used in modern digital computers.

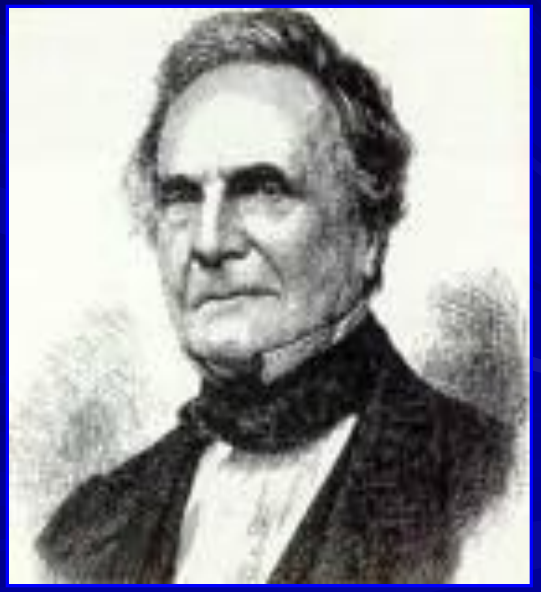
CHARLES BABBAGE

Charles Babbage, an Englishman invented the first calculating machine in 1830. It was called «the Analytical Engine».

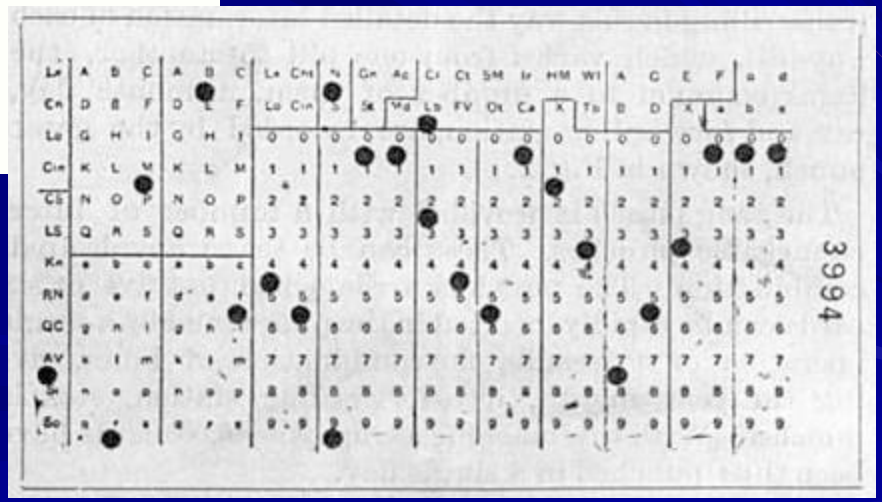
It carried out automatic calculations:

- Warehouse (data storage);
- Office (management);
- Data input and program with punched cards.





HERMAN HOLLERITH



FIRST GENERATION

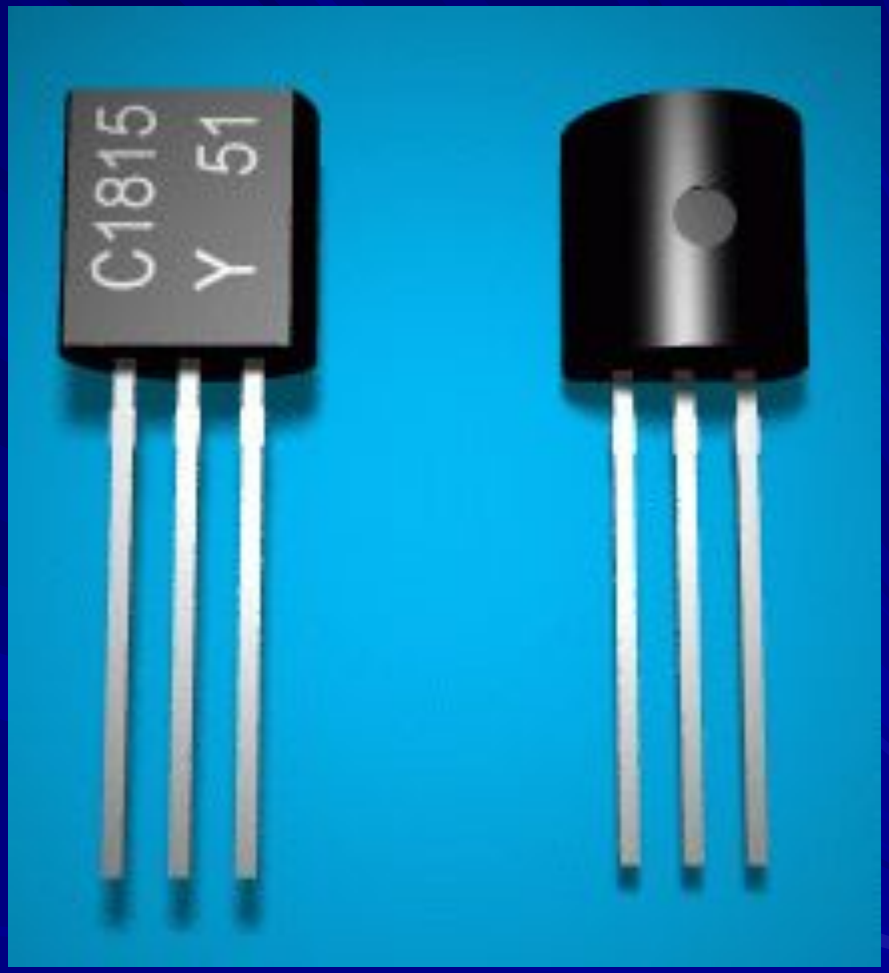
First Generation
1940-1956: Vacuum Tubes

The first computers used vacuum tubes for circuitry and magnetic drums for memory, and were often enormous, taking up entire rooms.

SECOND GENERATION

Second Generation -
1956-1963: Transistors

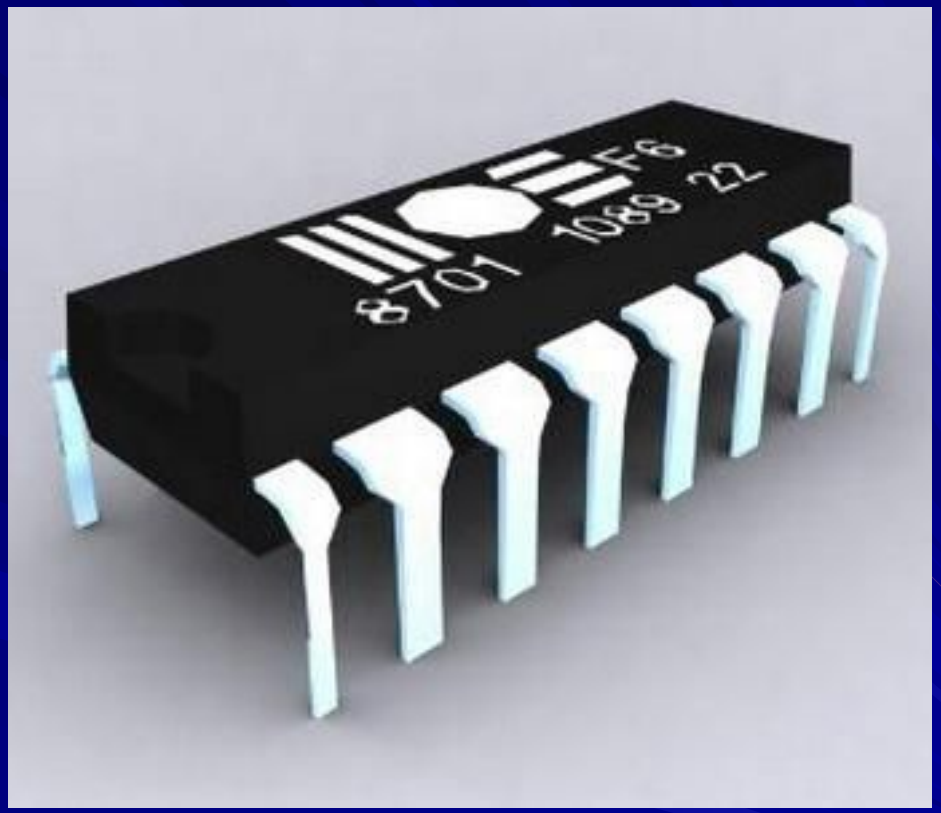
Transistors replaced vacuum tubes and ushered in the second generation of computers.
The transistor was invented in 1947 but did not see widespread use in computers until the late 50s.



THIRD GENERATION

Third Generation —
1964-1971: Integrated Circuits

The development of the integrated circuit was the hallmark of the third generation of computers. Transistors were miniaturized and placed on silicon chips, called semiconductors, which drastically increased the speed and efficiency of computers.



FOURTH GENERATION

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.

FIFTH GENERATION

Fifth generation computing devices, based on artificial intelligence, are still in development, though there are some applications, such as voice recognition, that are being used today.