



0.3- Mechanical Computers

Blaise Pascal designed a machine in 1642 to use it when participating in the burden of arithmetical labor involved in his father's official work as supervisor of taxes. First called the Arithmetic Machine, Pascal's Calculator and later Pascaline.



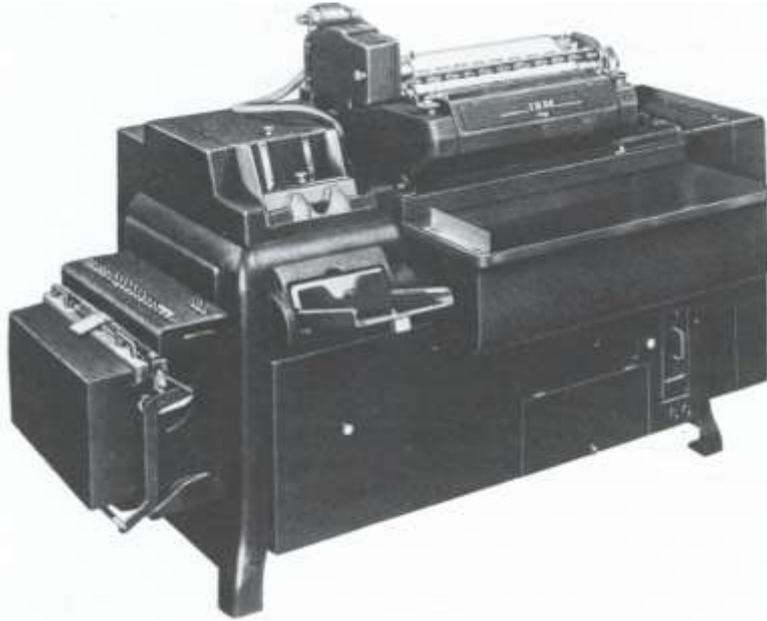
Charles Babbage (1792 – 1871) designed two computing machines, the **difference engine** and the **analytical engine**.

Many Electromechanical Calculators are developed in the age of **great wars**. A special device called **Enigma** was a series of electro-mechanical rotor cipher machines developed and used in the early to early-mid twentieth century for commercial and military usage. Enigma was invented by the German engineer Arthur Scherbius at the end of World War I.



Bell labs constructed six relay-based computers from 1938 through 1947.

International Business Machines Corporation (IBM), beginning with the IBM 405 Alphabetical Accounting Machine, introduced in 1934.

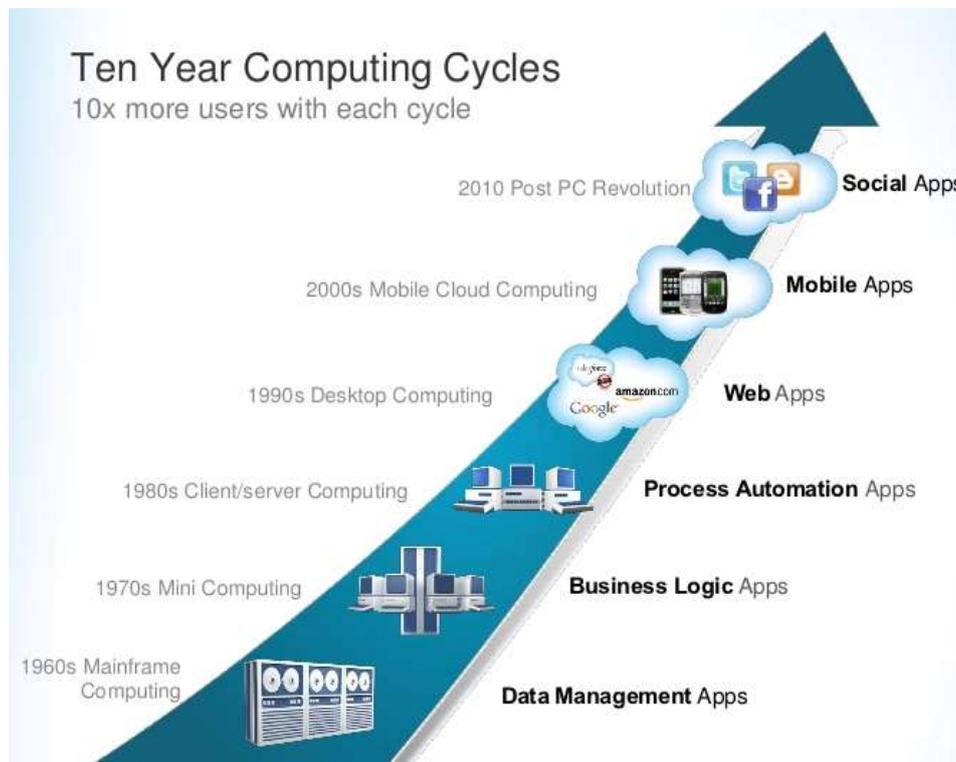


The Harvard Mark I, also known as the IBM Automatic Sequence Controlled Calculator (ASCC) was the largest electromechanical calculator ever built.



Electronic Numerical Integrator And Computer (ENIAC) was developed by Eckert and Mauchly at University of Pennsylvania. It started 1943, finished 1946, and used until 1955. It was Decimal (not binary). It is programmed manually by switches. It has 18,000 vacuum tubes. It weighs 30 tons and occupies 15,000 square feet. It can perform 5,000 additions per second

Perhaps the most obvious is massively **parallel computing**, best typified today by the modern GPU. Beyond that lies the weird world of **quantum computing**, which is slowly starting to take practical shape. Moore himself reflected both that semiconductor technology couldn't keep up its rapid progress, and that other technologies like **nanotechnology** and graphene might step up to fill the need.



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