



# Blaise Pascal

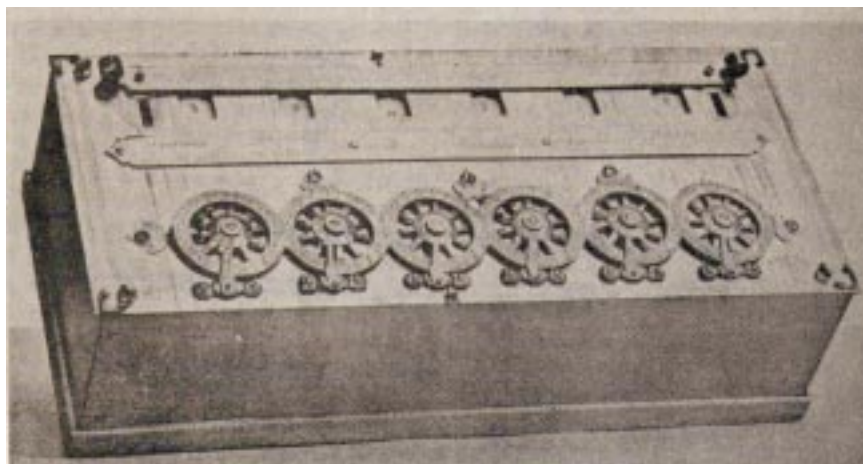
## 1623 - 1662

Blaise Pascal was a French mathematician, physicist and philosopher. The programming language '**Pascal**' was named in his honour.

Blaise Pascal was born in Clermont, at that time a small town. The Pascals belonged to the intellectual elite. His father was a royal Councillor and President of the 'Cour des Aides.' His mother, who died when he was three years old, was 'a pious and charitable lady'. Young Pascal showed very early signs of a lively passion for science. His father began to educate him through the study of languages.

One day, the twelve-year-old boy surprised his father with the question ' what is mathematics'. The answer that this science was used, for example, to help people to draw figures correctly encouraged Blaise to draw geometrical figures on the tiles of his room. A month later, the father found out that **the boy had reached the theorem: 'the sum of the angles of a triangle is equal to two right angles', without ever having read about it.** Blaise made rapid progress in mathematics.

It is said, that Pascal's father was sent to collect taxes. Blaise felt sorry for his father when he saw him sitting up half the night adding columns of numbers, and so he designed and constructed a machine that could add figures ( with up to eight digits ) using a complex system of rollers, shafts and counting gears. It was probably the world's first complex computing machine. Later Pascal rebuilt it for subtraction. In 1645 he was able to present the first error-free calculating machine to the public. The inventor obtained a monopoly by royal decree to manufacture and sell the '**Pascaline**'. Pascal sold over 50 of these machines to the financial authorities at a good price. Some of them still exist in museums.



*He invented the first computer*



*He spent many years meditating in a monastery*



When Pascal reached 24 years of age he became fascinated by physics. He succeeded in finding an experimental proof of the discovery by the Italian physicist Torricelli of the existence of an atmosphere surrounding the earth. Pascal was sure that the air pressure is less at greater height due to the reduced mass of air. To prove this statement Pascal asked his relative Florin Perier, an experienced mountain climber, to mark the level of the mercury on a modified torricellian column at the bottom and at the top of the Puy de Dome. The level registered at the top was indeed lower than in the valley below.

In 1654, Pascal, in cooperation with the famous mathematician Fermat, studied the numerical combination theory. **They laid the earliest foundation of the theory of probability**, the theory emerging from their study of heads-or-tails coin-flipping.

All his main works in mathematics and physics were made before he was 33 years of age. Later he withdrew more and more from the world and turned to theology and philosophy and then joined the mystical sect of 'Friends of Saint Augustine'. His last years were spent in meditation in a monastery. There he wrote religious books: the 'Pensees' and the 'Logic of the Heart'. His health rapidly declined. A few months before his death Pascal returned to practical matters and proposed a project to establish a public transport system in Paris in the form of carriages. For this he received a royal patent.

S.E.