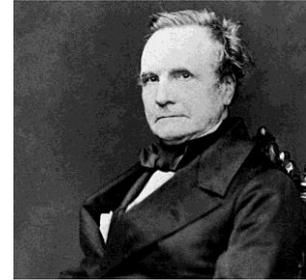


Famous Mathematicians

I can explore how mathematics impacts the world and the important part it has played in advances and inventions.

Charles Babbage



Charles Babbage was born in London on the 26th of December 1791 and is thought to have been the inventor of the first mechanical computer. He is described as a mathematician, philosopher, inventor and mechanical engineer.

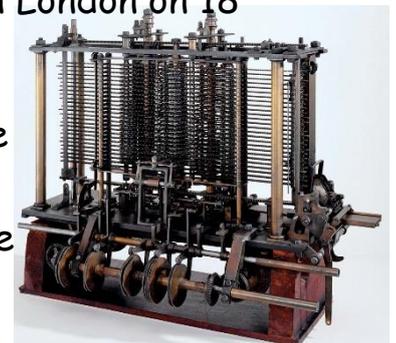
When he was a child, it is said that he was often unwell and so he was mostly educated at home. He was very interested in maths and went to Cambridge University in 1810 where he later became a Professor of Mathematics.

In the 1820s, he was working on his 'Difference Engine', a machine which could do mathematical calculations. He went on to develop plans for a bigger, better machine and that was named 'Difference Engine 2'.

He was also working on another invention, the more complicated 'Analytical Engine', this is the machine which led to the development of digital, programmable computers. This machine used punched cards to do calculations and had a memory unit which stored numbers. The machine being able to store the results of calculations was a major invention. These features are important parts of the computers we use today!

In Babbage's time, maths was calculated by human computers (by people, by hand). The maths they were calculating was important for maths, navigation, science and engineering and because they were calculated by people by hand, there were often mistakes in the calculations or in what the people wrote down. Babbage saw how unreliable these calculations could be and thought about how you could develop a machine to do the calculations. Although Babbage developed and designed these different machines, they were never completed and he did not see one working before he died. He died at his home in London on 18 October 1871.

This picture is a part of the machine called the Mill. There were three other parts; the store, the reader and the printer and these four components can still be found in the computers we use today!



Ada Lovelace

Ada Lovelace was born in 1815 and was a very talented mathematician. Her talents led her to work with Charles Babbage and she worked alongside him for many years. She saw that his invention of the Analytical Engine could do more than simple calculations. She worked for nearly a year making notes about how the Analytical Engine worked and her notes are very important in the early history of computers. In her notes, she described an algorithm that was designed to be carried out by the machine. The code is thought to be one of the first published algorithms that was made for a computer and so Ada Lovelace is thought by many to be the first computer programmer!

While Babbage and others were focussed on using the machine for doing maths sums, Ada Lovelace saw that the machine could be programmed to do other things. She saw that you could use numbers to represent other symbols like musical notes or letters, so the machine could be used for more than just calculations. At the time that Lovelace was alive, her ideas were so ahead of their time that they didn't get much attention. It wasn't until around 100 years later that people saw what she had been working on and recognised her work as important in the development of computers and programming.

