



Charles Babbage and Ada Lovelace

Charles Babbage was an English mathematician, philosopher, inventor and engineer. He is often referred to as the Father of Computing after he designed the first idea for a computing device.

Born on 26th December 1791, Babbage was a sickly child. He rarely attended school and was taught everything he knew at home. In 1810, he attended Cambridge University, where his fondness for maths was encouraged.

After graduating, Babbage rose through quickly in society and was responsible for setting up many of the scientific societies that were so popular in Victorian England. It was in the 1820s that Babbage started work on his Difference Engine. This was a machine which was designed to perform certain mathematical calculations. In today's world where we can do this on a mobile phone, this may not seem much, but in the 1800s it was unheard of for a machine to perform such complicated tasks.

Later on, Charles Babbage started designing his Analytical Engine. This was a much more complicated device; it was designed to perform any calculation fed to it via a series of holes punched into cards. Unfortunately, the Analytical Engine was left unbuilt until long after his death in 1871. Babbage wasn't responsible for recognising the true potential of his device, either. For that, it required an incredible woman.

Ada Lovelace was born Ada Byron in 1815. She was the daughter of famous British poet Lord Byron and was a gifted mathematician from childhood. Her mother insisted she was taught logic and mathematics from an early age. This devotion helped her when she became lifelong friends with Charles Babbage in 1833.

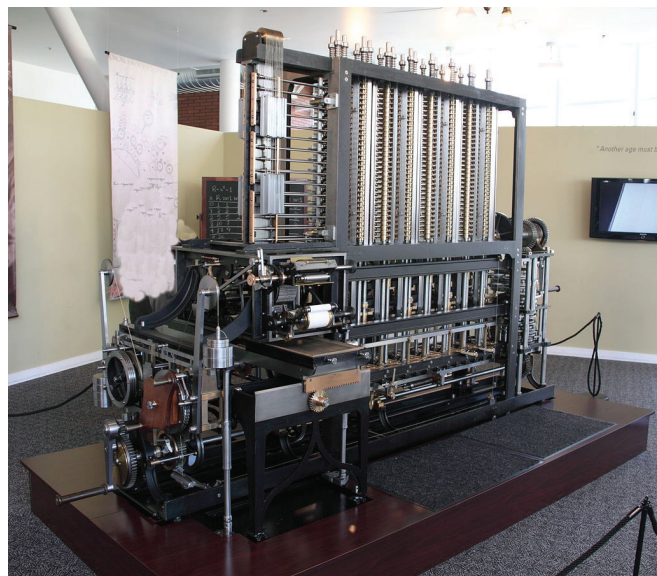
At that time, Babbage had plans for his Analytical Engine. Ada immediately saw the potential for the machine. She studied the plans and wrote lots of her own ideas about how it could be made to work. A lot of the things she wrote could be described as early computing coding.

During this time, Ada was the first person to describe how different codes could be used to

represent letters and symbols. This is an idea that computers still use to this day. She was also the first to suggest a way for the engine to run the same programme over and over. This is known as “looping”, and is an essential part of computer coding that you will have used in any programming software.

Unfortunately, Ada died in 1852 at the age of 36. Most of her ideas were not discovered until long after her death. In spite of this, they have been used to form the basis of many of the ideas used in modern computer programming. She has been honoured in many different countries and is often referred to as the Mother of Computer Programming.

Despite the hard work of Charles Babbage and Ada Lovelace, the Analytical Engine wasn't built until well into the 20th century. Alan Turing used the plans to help devise the first modern computers in the 1940s.



A Difference Engine

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RETRIEVAL FOCUS

1. Where was Charles Babbage educated as a child?
2. When did Charles Babbage die?
3. Who was Ada Lovelace's father?
4. What was he famous for?
5. What helped Ada when she became friends with Charles Babbage?

VIPERS QUESTIONS

- V** Which word or phrase tells you that Charles Babbage enjoyed maths when he went to university?
- I** Why was Charles Babbage referred to as the Father of Computing and Ada Lovelace the Mother of Computer Programming?
- S** Write the key events of this text in order.
- S** Which device was designed first, the Analytical Engine or the Difference Engine?
- I** What information in the text tells you that Charles Babbage was happy to work with Ada Lovelace?

Answers:

1. At home
2. 1871
3. Lord Byron
4. Writing poems
5. Her devotion to mathematics/maths

V: Fondness

I: They were the first people/pioneers in their field

S: Charles Babbage born, Ada Lovelace born, Babbage invents the difference engine, Ada Lovelace meets Charles Babbage, Ada spots the potential for the device, Ada dies, Charles dies.

S: Difference Engine

I: She became lifelong friends with Charles Babbage in 1833.