Ada Lovelace

10 December 1815 – 27 November 1852

**Augusta Ada King, Countess of Lovelace** was an English mathematician and writer. Known chiefly for her work on [Charles Babbage](https://en.wikipedia.org/wiki/Charles_Babbage)'s proposed [computer](https://en.wikipedia.org/wiki/Computer), the [Analytical Engine](https://en.wikipedia.org/wiki/Analytical_Engine). She was the first to recognise that the machine had applications beyond pure calculation, and published the first [algorithm](https://en.wikipedia.org/wiki/Algorithm) intended to be carried out by such a machine. As a result, she is widely regarded as the first to recognise the full potential of computers and one of the first computer [programmers](https://en.wikipedia.org/wiki/Programmer).

**Background**

Augusta Byron was the only legitimate child of poet [Lord Byron](https://en.wikipedia.org/wiki/Lord_Byron) and his wife [Lady Byron](https://en.wikipedia.org/wiki/Lady_Byron). Byron separated from his wife a month after Ada was born and left England forever four months later.

Her father, Lord Byron died when Ada was eight years old. Her mother promoted Ada's interest in mathematics and logic in an effort to prevent her from developing her father's perceived [insanity](https://en.wikipedia.org/wiki/Insanity). Although often ill in her childhood, Ada pursued her studies assiduously.

At 20 years old, she married [William King](https://en.wikipedia.org/wiki/William_King-Noel,_1st_Earl_of_Lovelace) in 1835. King was made Earl of Lovelace in 1838, Ada thereby becoming Countess of Lovelace.

**Work**

Ada described her approach as "poetical science" and herself as an "Analyst (& Metaphysician)”. When she was a teenager, her mathematical talents led her to a long working relationship and friendship with fellow British mathematician Charles Babbage, who is known as "the father of computers". She was in particular interested in Babbage's work on the Analytical Engine.

Around the age of 17, Ada met Charles Babbage, a mathematician and inventor. The pair became friends, and the much older Babbage served as a mentor to Ada. Through Babbage, Ada began studying advanced mathematics with University of London’s Professor Augustus de Morgan.

Ada was fascinated by Babbage's ideas. Known as the father of the computer, he invented the difference engine, which was meant to perform mathematical calculations. Ada got a chance to look at the machine before it was finished and was captivated by it. Babbage also created plans for another device known as the Analytical Engine, designed to handle more complex calculations.

Ada was later asked to translate an article on Babbage's Analytical Engine that had been written by Italian engineer Luigi Federico Menabrea for a Swiss journal. Lovelace translated the original French text into English and also added her own thoughts and ideas on the machine. Her notes ended up being three times longer than the original article. Her work was published in 1843, in an English science journal.

Lovelace's notes are important in the early [history of computers](https://en.wikipedia.org/wiki/History_of_computers), containing what many consider to be the first computer program - an algorithm designed to be carried out by a machine.

She also developed a vision of the capability of computers to go beyond mere calculating or number-crunching, while many others, including Babbage himself, focused only on those capabilities. Her mindset of "poetical science" led her to ask questions about the Analytical Engine (as shown in her notes) examining how individuals and society relate to technology as a collaborative tool.

Ada's article attracted little attention when she was alive. In her later years, she tried to develop mathematical schemes for winning at gambling. Unfortunately, her schemes failed and put her in financial peril.

**Death**

She died of uterine cancer in 1852 at the age of 36. She was buried next to her father, in the graveyard of the Church of St. Mary Magdalene in Nottingham, England.