When you think of computer programming, you probably don't think of the mid-1800s. But the famed daughter of poet Lord Byron, Ada Lovelace, is credited as the first computer programmer. You could say she's the mother of all coders.

The Early Years

Born Augusta Ada Byron on a chilly December 10 in 1815, Ada was the only legitimate child of the renowned poet Lord George Gordon Byron. Sadly, Ada's parents were not meant to be and separated mere weeks after Ada's birth. Although Ada had a famous father, she would never know him as he left England when she was a few months old and died in Greece when she was just 8 years old.

Raised by her mother, Ada had an unusual childhood for a Victorian aristocrat. One of the most unique aspects of her childhood was her mother's insistence that tutors teach Ada mathematics and science. These were not standard subjects of study for women at the time, however Ada's mother believed the intense line of study would keep Ada from developing the moody and unpredictable temperament of her late father.

This focus on STEM studies at a time when women were expected to learn softer, more gentile practices was not wasted on Ada. She showed an aptitude for numbers and language from an early age. Among her teachers was William Frend, a social reformer; William King, the family doctor; and Mary Somerville, a Scottish astronomer and mathematician who was also one of the first women admitted into the Royal Astronomical Society.

The Personal Life of an Icon

Ada would eventually marry William King, who would become the Earl of Lovelace. She took the title of Countess of Lovelace. The pair shared a love of horses and would have three children together. Another important influence in her life, King was said to have always been a supporter of his wife's academic pursuits. The two shared a bustling social life, even rubbing elbows with the scientist Michael Faraday and English writer Charles Dickens.

Sadly, Ada's health would create problems for her. It's thought her sickly later years are in part due to contracting cholera in 1837. After recovering from cholera, she would suffer from asthma and digestive issues for years. To help manage the associated pains, she was prescribed heavy-duty painkillers like Laudanum and opium. It was observed that these unfortunately caused a change in her personality. Reportedly, she would have frequent mood swings and hallucinations.

Charles Babbage and the Article That Changed it All

Around the age of 17, Ada made a friend that would have a lasting impact on her life: Charles Babbage. Charles was a mathematician and inventor, and he quickly became a mentor to his much younger friend, Ada. Charles Babbage is credited as the medium through which Lovelace began studying advanced mathematics with Augusts de Morgan, a professor at the University of London.

If Ada could be called the mother of computer programming, Babbage would be the father of the computer. It was he who invented the difference engine, a machine meant to perform mathematical calculations. Before it was finished, Ada had the opportunity to see the machine and was in awe.

She would later translate an article on Babbage's analytical engine. Along with the translation, she added her own thoughts about the machine. In her notes on the machine, she elaborated on the codes the machine used. Most importantly, she also posited a theory for a way the engine could repeat a series of instructions. This is a process known as looping and it's something computer programs use today. Her forward-thinking ideas in the article would elevate her to often considered the first computer programmer.

The Legacy of Ada Lovelace

Though her article didn't attract much attention during her life, it did cement her in STEM history. Later she would try to develop mathematical ways to win at gambling, but her calculations would ultimately fail, leaving her in a precarious financial situation. She died of uterine cancer November 27, 1852, in London and was buried next to the father she never knew.

Her incredible influence in the field of computer science wasn't appreciated until the 1950s. B.V. Bowden would ultimately be responsible for pushing Lovelace finally into the limelight she always deserved by republishing her article in *Faster Than Though: A Symposium on Digital Computing Machines* in 1953. Ada has since received a host of posthumous awards and honors. A final feather in her posthumous hat: the U.S. Department of Defense in 1980 named a new computer language "Ada," after the women who started it all more than a century earlier. It is thanks to her contributions that immortalizes the legacy and impact of women in STEM.

SOURCES USED:
https://www.biography.com/scholar/ada-lovelace