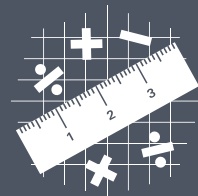




I Want to Be a Mathematician Like



ADA BYRON

LOVELACE

WRITTEN BY ELIZABETH LANE
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Sometimes at work, my dad uses a computer programming language called Ada.



One day I asked him where the name came from.
This is what he told me.

Ada Byron lived in England more than one hundred and fifty years ago. Her father, Lord Byron, was a famous poet. When Ada was a baby, he left home. She never saw him again.



Ada's mother, Lady Byron, thought her little girl should study mathematics. She hired the best mathematicians she could find to teach her daughter.





Ada loved math! Her favorite teacher, Mary Somerville, was a well-known scientist. As Ada grew up, she and Mary became good friends.



Sometimes Ada went to meetings of mathematicians and scientists. At one of these meetings, a man named Charles Babbage showed visitors a machine he had invented. He called it the Difference Engine.

When Mr. Babbage set up an addition problem on the machine, its moving parts turned until they showed the correct answer.



A machine that could add! Ada had never heard of such a thing. She could not stop asking questions about it. Mr. Babbage was surprised that Ada knew so much about math.





Later Mr. Babbage wrote to Ada about another machine he wanted to build. His machine, the Analytic Engine, would be almost like our modern calculator. It would be able to add, subtract, multiply, and divide.



Mr. Babbage already knew how he would make this new machine. But the Analytic Engine would be huge, with many expensive parts. He did not have the money to build it.

Ada could not stop thinking about Mr. Babbage's wonderful idea. For years the two of them wrote to each other about how the Analytic Engine would work and what it would be able to do.



Ada had become a wife and mother. She was married to Lord Lovelace and had a busy life. Soon her life would become even busier.





A young man had written a report about the Analytic Engine. The report had been published in France. Ada, who spoke French, was asked to translate the report into English and to write some notes to go with the report.



Ada had no trouble translating the report. But she knew much more about the Analytic Engine than the author did. For months she worked on her notes. She used her deep knowledge of math. And she used something else—her imagination.

When Ada's notes were finished, they were three times as long as the report. She described exactly how the Analytic Engine could use cards with holes punched in them. These cards would work together to make a kind of code.



A mathematician who knew the code could set up the machine to solve almost any kind of number problem.



Mr. Babbage's Analytic Engine was never built. But many years later, people who read Ada's notes were amazed by what they found.

Ada had used math and her imagination to write a computer program. She had done it in 1843, more than one hundred years before the first computer was built.



The United States Government honored Ada by naming a programming language after her.

Now, when I do math or work on a computer, I think about Ada Byron Lovelace, and I try to use my imagination, just as she did.



For Teachers and Parents

ADA BYRON LOVELACE

1815–1852

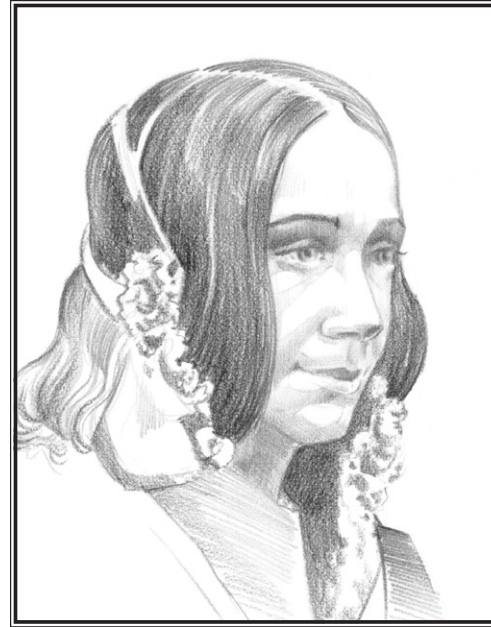
Ada Byron Lovelace said, “I do not consider that I know a proposition until I can imagine . . . a figure in the air, and go through the construction . . . without any book or assistance whatever.”

Scholar

As a child, Ada Byron studied science, geography, music, languages, and mathematics. When she grew older, her original ideas about mathematics surpassed those of her teachers.

Mathematician

Ada was known and respected by other leading mathematicians of her day. Some called her “The Enchantress of Numbers.”



Visionary

Ada’s notes on the Analytical Engine anticipated the functions of a computer by more than one hundred years. She predicted such processes as data storage and looping, and even suggested that such a machine might be able to compose music.

Math & Science

Mathematician

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