Women's History Month—Trailblazers in technology

By [Crabby](#)
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March is Women's History Month, with March 8th being the traditional day *International* Women's Day is celebrated. There are many, *many* women who have contributed to the technological advances and work regarding mathematics, computers, and software.

Today I've chosen three to highlight.

Grace Murray Hopper (1906-1992)

Grace Hopper had such a remarkable career that I almost don't know where to start. During her lifetime, this amazing, pioneering lady was a U.S. Naval officer, a mathematician, a professor, and a computer programmer. (In other words, she was no slouch.) Grace Hopper had a profound effect on the field of computer development from the 1930s to the 1980s.

In 1944, while in the Navy, Hopper worked as a programmer at Harvard University on the Mark I, the first large-scale U.S. computer and a precursor of electronic computers. (This was when computers took up entire floors of buildings.) In 1952, she devised the first compiler, a program that translates instructions for a computer from English to machine languages. During 1957-1961, she helped develop the Flow-Matic programming language and the Common Business-Oriented Language (COBOL) for the UNIVAC, the first commercial electronic computer.

Hopper taught and lectured extensively during the 1960s. She worked hard to attract businesses and industry to computers, as well as to convince people to bridge the gap between management and programmers (a battle which I believe still thunders on). When she retired—or, rather, tried to retire—from the Navy in 1966 (having served for 23 years), those guys got on their hands and white-clad knees and begged her to oversee the Navy's program to standardize its computer programs and languages. Lucky for us, she agreed and was eventually elevated to the rank of Rear Admiral in 1983. She was finally granted retirement in 1986. The U.S. Navy destroyer [USS Hopper (DDG-70)](#) was named for her.

And one more note about Grace Hopper: A little software company called Microsoft has established the Women@Microsoft Hoppers Scholarship in her honor.

[Read more about Rear Admiral Grace Hopper](#)

Evelyn Boyd Granville (1924-)

Evelyn Boyd Granville earned her doctorate in mathematics in 1949 from Yale University and was one of the first African-American women to earn a Ph.D. in mathematics. During her career at IBM, she developed computer programs that were used for analyzing orbits (or what is known as "trajectory analysis") in the Mercury Project (the first U.S.-manned mission in space) and in the Apollo Project (which sent U.S. astronauts to the moon).

During her career, Dr. Granville has worked as a mathematician and programmer for a variety of private and governmental agencies, taught elementary school-age children as well as college students, and co-authored a textbook for prospective elementary-school teachers.

Read more about Evelyn Boyd Granville

Augusta Ada Byron, Countess of Lovelace (1815-1852)

Augusta was the daughter of Lord Byron and one of the very few women mathematicians of her time. (This time the apple did fall far from the tree—the flowery poems tree, that is). A student and friend of Charles Babbage, a British mathematician and scientist, Augusta had the job of keeping extensive notes concerning Babbage's ideas and the Analytical Engine (considered the mechanical forerunner of the modern computer).

Unfortunately for Augusta and Charles, the Analytical Engine was never built. However, its key concepts, such as the capacity to store instructions, the use of punched cards as a primitive memory, and the ability to print (in other words, an operating system and software), are applied to modern computers. In fact, Lovelace's programs for the machine led to the naming of a programming language in her honor (ADA) by the U.S. Department of Defense in 1979.

Read more about Ada Lovelace

Of course, there are many more women who were—and are—pioneers in the field of computers and related technologies. In addition, because of the relative youth of this industry, influential women are continually spearheading new inventions and advances.

Interested in more women technology pioneers?

- Anita Borg Institute for Women and Technology
- Computer Wonder Women (not the most beautiful site but it has a lot of interesting information)

Now, I have great admiration for anyone who blazes a trail. But when you're a woman trying to make her way—not to mention her mark—in an industry once considered to be more suited to the opposite gender, well, my admiration goes even further.

But for me, what sets these women apart from others in their field is their dedication to teaching others about their experiences, their inventions, and what they learned (and in some cases continue to learn) throughout their illustrious careers. Ladies, Crabby salutes you.

— *Crabby*