** Grace Brewster Murray Hopper**

* born in New York City on December 9, 1906
* at age seven, she showed a particular love for gadgets, disassembling seven alarm clocks in the attempt to determine how they worked
* She shared her love of math with her mother, who studied geometry by special arrangement when serious study of math was still thought improper for a woman. Her father, a successful insurance broker despite the double amputation of his legs, encouraged all his children, through his speech and example, that they could do anything if they put their minds to it. He inspired Hopper to pursue higher education and to avoid being limited to typical feminine roles.
* In 1936 she published a paper on "The ungenerated seven as an index to Pythagorean number theory" in the American Mathematical Monthly.
* With the outbreak of World War II, Hopper made a life-altering decision to serve her country by joining the Navy. The process was not an easy one. At age 34, weighing 105 pounds, she was considered overage and underweight for military enlistment. Navy officials asked her to remain a civilian. These obstacles did not stop Grace Hopper. She obtained a waiver for the weight requirement, special government permission, and a leave of absence from Vassar College. In December 1943, she was sworn into the U.S. Naval Reserve.
* Hopper's first assignment was under Commander Howard Aiken at the Bureau of Ordinance Computation at Harvard University. There she became the third programmer of the Mark I, the world's first large-scale automatically sequenced digital computer. The computer was used to calculate aiming angles for Naval guns in varying weather conditions. Because the numbers were so pertinent, Hopper and her assistants were often required to run and monitor the system twenty-four hours a day. They spent countless hours transcribing and inputting codes for Mark I and its successors, Mark II and III. Hopper received the Naval Ordnance Development Award in 1946 for her work on the Mark series.
* Hopper taught herself how to add, subtract, multiply, and divide in octal, a number system with base eight that uses digits 0 through 7, in order to facilitate the process.
* Hopper received numerous honors over the course of her lifetime. In 1969, the Data Processing Management Association awarded her the first Computer Science Man-of-the-Year Award. She became the first person from the United States and the first woman to be made a Distinguished Fellow of the British Computer Society in 1973. She also received multiple honorary doctorates from universities across the nation. The Navy christened a ship in her honor. In September, 1991, she was awarded the National Medal of Technology, the nation's highest honor in engineering and technology. However, over all these distinctions, Hopper claimed her work as a teacher as her most important and rewarding accomplishment.
* A true pioneer, she helped to pave the way for modern computing, as well as professional women everywhere. Hopper truly lived up to her motto "Dare and Do."
* Rear Admiral Grace Brewster Murray Hopper died January 1, 1992. She was buried with full military honors at Arlington National Cemetery.

<http://www.agnesscott.edu/lriddle/women/hopper.htm>

<http://fivethirtyeight.com/features/the-queen-of-code/> video (16:31 min)



