January 2, 2017

Dear Admiral Grace Hopper,

   I am a 6th grader living in Michigan and like you, I love math and computer programming. After having a beginner's lesson on computer programming from my brother, I started on line lessons in Khan Academy and that was when I first saw your name. In fact, Khan Academy recognized you as one of the first computer programmers and named one of their avatars, Hopper the beaver, after you. It was intriguing to know that you worked on coding for the US navy and accomplished many things. I also happened to learn binary systems, which seemed like a tedious way to write. So, it was really nice that you helped establish a system to let programmers just use 'if-then statements' instead of binary code. Yale University website link captures your perseverance and determination in the most fitting way, "When she recommended that an entire programming language be developed using English words, however, she "was told very quickly that [she] couldn't do this because computers didn't understand English." Only after three years was her idea finally accepted; she published her first compiler paper in 1952." All these efforts finally resulted in the development of the popular computer language COBOL. We are thankful to you for making 'computer coding' easier.

   Your interest in gadgets started when you were little, with alarm clocks. Do you remember that you took apart seven alarm clocks before your mom realized? It was nice of your mother to let you play with one of them. I wonder if you ever put the six alarm clocks that your mom took away back together. Later you went on to work on computers Mark I, Mark II, and Mark III. Did you ever get tired of the name Mark?

   According to biography.com, you received "the National Medal of Technology in 1991—becoming the first female individual recipient of the honor," in addition to winning the Defense Distinguished Service Medal, American Campaign Medal, and IEEE Emanuel R. Piore Award in 1988, and most recently, the Presidential Medal of Freedom in 2016. I also noticed that there is an award named after you, Grace Murray Hopper Award, for people who make an impactful, technical or service related contribution at the age 35 or younger.

Congratulations on becoming a Rear Admiral and getting a missile destroyer, USS Hopper, named after you.

Some of your quotes are now famous. My favorite is, "a ship in port is safe, but this is not what ships are built for. Sail out to sea and do new things." This inspires me to try new things. Even though math and computer science are my favorite subjects, I always wonder what will I be when I grow up. Did you like math when you were little? Did you ever want to be anything else?

You might want to know that "debugging" is now a common term used by people all around the world, though people now usually don't use it to refer to the fact that they need to take a moth out of their computers. I have seen pictures of Mark computers that you had worked on. Those were humongous. Now computers are way smaller and we even have laptops and portable computers. Have you ever seen a computer notebook!? What will you think if you see an Ipad! All these have been possible because of people like you who took the risks, sailed out to do new things, and made the impossible possible and the unthinkable thinkable. Thank you!

Sincerely,

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A tribute to Rear Admiral Dr. Grace Murray Hopper (born 1908 passed away 1992):

Conditional statement: If you have ever used a computer or programmed using 'if-then statements' or FLOW-MATIC coding, then thank Grace Murray Hopper. Truth value - True.

By conditional statement: If and only if you have used a computer programmed using 'if-then statements' or FLOW-MATIC coding, then thank Grace Murray Hopper. Truth value - False.

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