

**Career Readiness Challenge -
Elementary School**

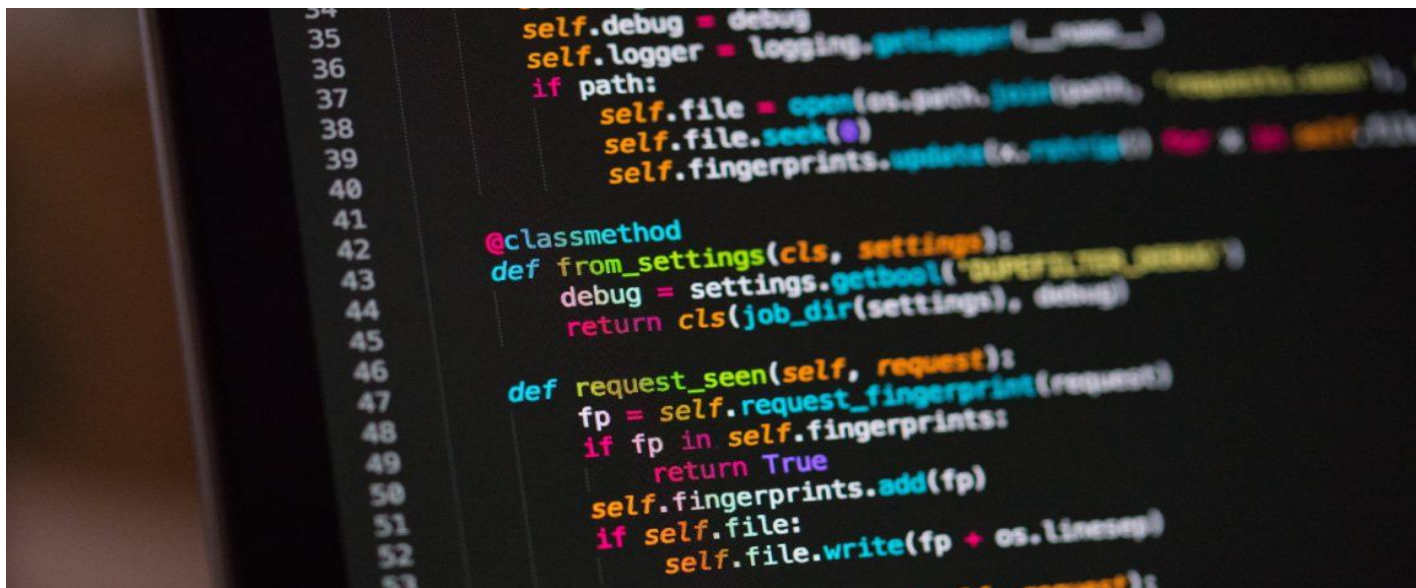
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Team Number: 23478B

**Team Location: West Homestead K-8
Center**

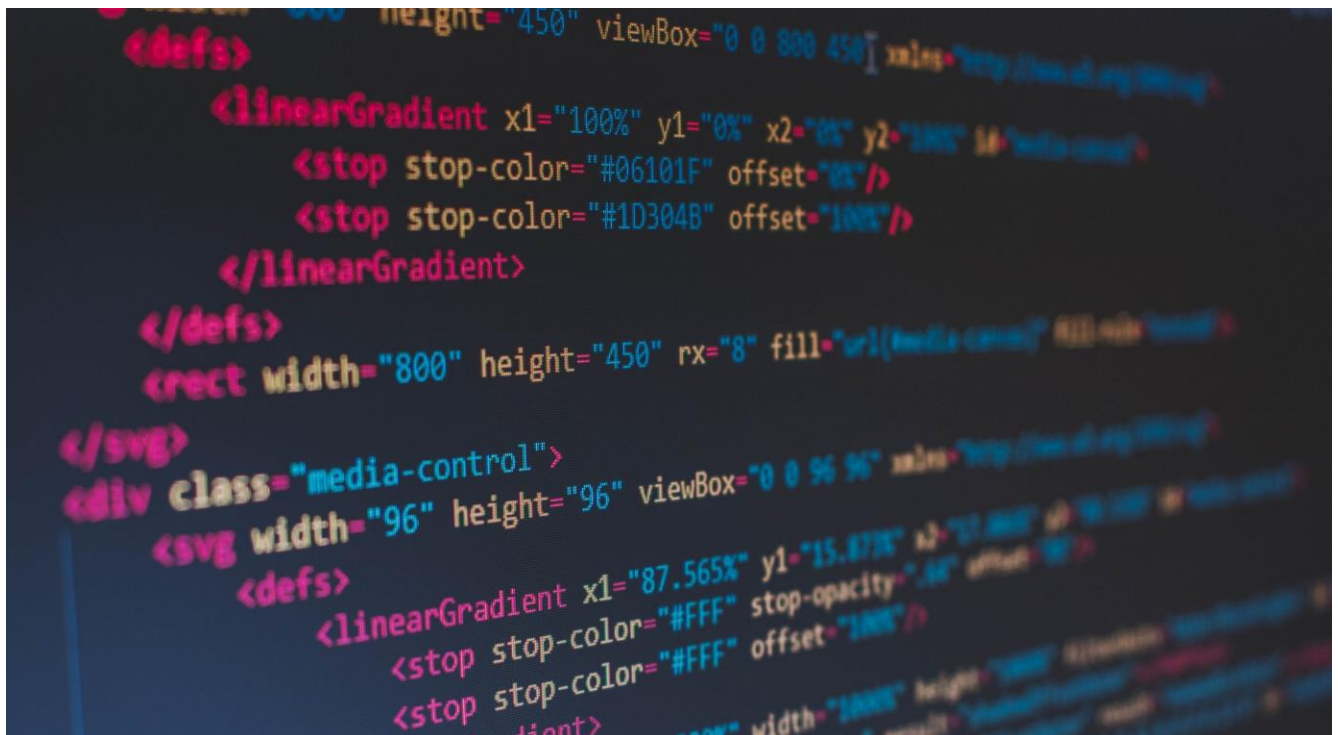
Robotics

There are many careers that apply to STEM. The STEM career/company I chose is technology and engineering because it applies to being a coder. The professions in this career use the engineering design process to solve problem with a higher level of thinking, including thinking strategically, recognizing when a problem calls for a well-thought-out solution rather than an automatic response, and organizing the steps correctly. As a coder, you must break any problem into smaller steps, analyzing a situation and producing a sensible solution. Coding is a critical skill for mechanical engineers in today's technology driven world. It allows us to design, create, and control advanced manufacturing technologies, as well as analyze and maximize their performance. Programming can have many outcomes such as developing problem-solving skills, becoming more creative, and you can create a portfolio that stands out from the rest.



(This photo shows the solutions to program correctly, to make things run smoothly)

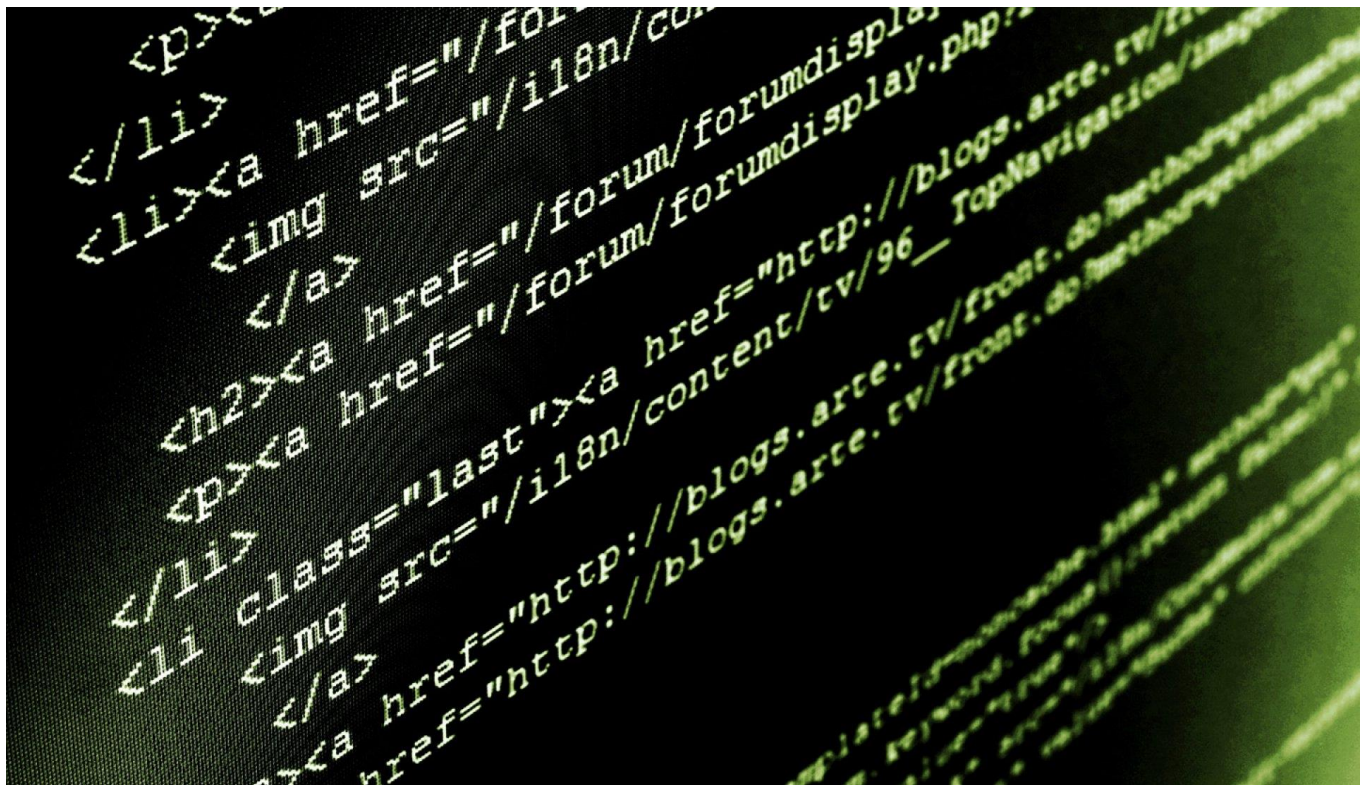
Technology as a coder is like a manual or set of instructions for computers to follow. A coder writes instructions classifying the information to perform a task. Computers scan wide ranging coded manuals rapidly, executing the tasks that create and run a successful website. Coding, also known as computer programming, is how we communicate with computers and tell them what to do coding. Professionals can build programs, including websites and apps. Coding is essential to computing because it allows us to create the software and applications that power our digital world. Most technology today either has some form of computer within it or needs computers to make it. Coding is used for most things really; coding is at the heart of every modern technology.



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(This photo shows the coding process with certain sources like the width and height)

Electronics engineering uses low-level and high-level coding languages to program and test hardware. One of the biggest challenges in programming hardware is to have knowledge about how each component works and understand its characteristic curves. Coders use the engineering design process when brainstorming solutions to real-life problems, they develop these solutions by testing and redesigning prototypes that work within given constraints. Coding tells a machine which actions to perform and how to complete tasks. Programming languages provide the rules for building websites, apps, and other computer-based technologies. Each programming language helps humans accurately communicate with machines.



(This image shows essential information about coding)

My participation in VEX Robotics has helped me prepare for my future career as a coder. VEX Robotics has taught me how to code and solve problems with a higher level of thinking. I can recognize when problems need a well-thought-out solution rather than an automatic response. Coding helped me develop teamwork and interpersonal skills since software and application projects are often collaborative. VEX Robotics has given me amazing innovative ideas and developed more logical thinking. Solving a coding problem often means looking at the problem from many ways of critical thinking. It showed me how problems should be solved and then implements solutions that solve those problems effectively. Coding in VEX Robotic has taught me the process of creating instructions that computers then interpret and follow. Coding has a lot to do with modern technology such as traffic lights, calculators, smart TVs, and cars using internal coding systems. Computers do not communicate like humans so coding acts as a translator for them. Coding allows humans to communicate with devices.

(This image shows someone doing code for a robot like in VEX Robotics)

