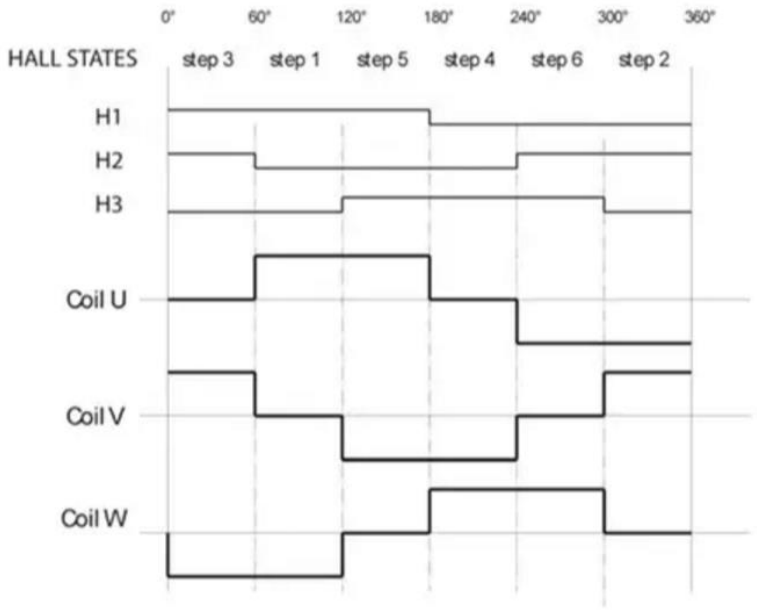
What I did this week:

This week was aimed at getting the motor running. After my other team members soldered most of the components to the board, we grabbed the available connectors to polish up our wires that connect to the external battery pack. I purchased a scooter for the team, and had it delivered on Tuesday. We will measure and modify this scooter with the electric motor assembly. On Tuesday, I spent a lot of time in the capstone lab with the team. While they were apply connectors, I tried my hand at soldering wires for the first time. I removed the redundant connector for Hall Effect sensor wires and re applied solder to attach them to a pin arrangement. Afterwards, I helped write the code for interpreting Hall Effect inputs. I had to quickly learn Arduino code and syntax, but for the most part it is just like C. The IDE is also extremely easy to set up and use. We set up the encoding based on this chart here. I used a series of IF statements since case-switch didn't not play nice with the data type. There are 6 possible "cases" and each one writes to 6 pins, which in turn fire the specific mosfets that help power the motor, the three phase brushless gate driver.



What I need to do:

I need to research and set up a way to actually code our microprocessor. Currently an Arduino will move the motor (well we haven't really got the motor to move fully, just slightly.) This requires the second revision of our board which will include the microprocessor. Since we are on ATMEL parts, it appears I will need to use an AVR for in system programming. In addition, I will bring the scooter along for the MECOP event and meet with my team there to measure and discuss mounting bracket concerns with an external contact a team member has made. Ideally we aim to get the motor running on an Arduino by the end of the week, and then get the second board revision and start programming.

Obstacles:

Mostly Time, we are on a serious time crunch even though it seems that every day we are working on this scooter and it's motor.