

Credit Name: CSE3910 - Project D
Assignment Name: Phidgets Rover Kit project

This was actually a fun project to do since it was easy for me to create and modify the codes Phidgets is asking me to do. Some of the practices for each section were either easy or hard but overall really good to learn about. The thing I did with the practices was that I recorded each of the following things that it asked me instead of combining all three. For the Move practice, the first thing I did was just modify the target velocities for both left and right motors to 0.5. Next thing I did was that I just changed how long it moves by changing the `thread.sleep()` to 2000 milliseconds instead of 1000 milliseconds. The next thing I did was that I changed the target velocities for both left and right motors by -1.0 in order to move it backwards. For the Turn practice, the first thing I did was just modify the target velocity for the left motor to -1 while modifying the right motor's target velocity to 1 in order to turn the opposite direction. Next thing I did was that I set both right and left motor's target velocities to 1 in order to move it full speed for one second (setting the `thread.sleep()` to 1000 milliseconds), then I set both right and left motor's target velocities to 0 in order to full stop for one second (setting the `thread.sleep()` to 1000 milliseconds), then I set the right motor's target velocity to -1 while the left motor's target velocity is set to 1 for 725 milliseconds (by setting the `thread.sleep()` to 725 milliseconds) in order to make a full 180 degrees turn around, then I set both right and left motor's target velocities to 0 in order to full stop for one second (setting the `thread.sleep()` to 1000 milliseconds), then I set both right and left motor's target velocities to 1 in order to move it full speed for one second (setting the `thread.sleep()` to 1000 milliseconds) back to my original position. For the Avoid Obstacles practice, the first thing I did was just double the sonar distance detection and the speed of the rover by modifying the sonar distance detection to 400mm instead of 200 and setting the right and left motor's target velocities to 0.5 instead of 0.25. Next thing I did was that I made the rover turn around for a set period of time by setting the right and left motor's target velocities the same speed (0.25) but in opposite directions. The next thing I did was just modify the printing of the data to detect the distance by 100 milliseconds instead of 250 by setting the `thread.sleep()` to 100 milliseconds. For the challenge section, I initially set both right and left motor's target velocities to 1 in order to move it full speed for 1.05 second (setting the `thread.sleep()` to 1050 milliseconds), then I set both right and left motor's target velocities to 0 in order to full stop for one second (setting the `thread.sleep()` to 1000 milliseconds), then I set the right motor's target velocity to 1 while the left motor's target velocity is set to 0 for 710 milliseconds (by setting the `thread.sleep()` to 710 milliseconds) in order to turn 90 degrees. I repeated this for two more times until I set both right and left motor's target velocities to 0 in order to fully stop for one second (setting the `thread.sleep()` to 1000 milliseconds).