November - Week 1

Sphero RVR - Driving motors, distance, and speed

Drive to position si

Open file manager and navigate to:

/home/pi/sphero/getting_started/observer/driving

Open file:

drive_to_position_si.py

Open terminal and type:

cd sphero

pipenv shell

cd getting_started/observer/driving

Drive to position si - Speed & Distance

Put the Sphero on the ground prepare yourself, it's about to scoot around a little!

Type the following into the terminal:

python drive_to_position_si.py

The Sphero should move around in a square pattern

Line 55 will allow you to modify the speed

Line 56 will allow you to modify the distance

5x the speed, half the distance

Rerun *python drive_to_position_si.py*

Notice it never reaches max speed without an increased distance

Drive to position si - Turning

Pick the Sphero up off its wheels and rerun the program

python drive_to_position_si.py

Notice in the previous times, if the sphero didn't knock into anything it will return

{'success': True}

If not it will return

{'success': False}

It can tell when it doesn't complete an action!

Drive to position si - Turning

Before starting the challenge:

- Make a copy of *drive_to_position_si.py* and rename it Mission2.py
- We will be modifying the code within Mission2.py

This way if something goes wrong, we can refer back to the original code!

Drive to position si - Challenge

Line 76 through 106 is the bulk of the program we want to modify.

Challenge:
Make the Sphero
1. move 1 meter forward & turn right
2. move 2 meters forward & turn 180 degrees
3. move 2 meters forward & turn left
4. move 1 meter forward and turn 180 degrees
    Starting in the same location and position as before

Hint: yaw_angle is a fixed angle, notice in the original program -90 is the first right turn, -180 is the second right turn, 90 is the 3rd right turn, and 0 is the last right turn.

Step-by-step solution: https://youtu.be/DawYeaiCWrU