

# November - Week 2



Sphero RVR - Magnetometer & driving motors

# Drive With Heading

Open file manager and navigate to:

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

Open file:

```
drive_with_heading.py
```

Open terminal and type:

```
cd sphero
```

```
pipenv shell
```

```
cd getting_started/observer/driving
```

# Drive With Heading - Speed & Turning

Put the Sphero on the ground prepare yourself, it's about to move around faster.

Type the following into the terminal:

```
python drive_with_heading.py
```

The Sphero should dance around in a more seamless “random” pattern

Notice this mode does not return any value to the terminal

Line 25 through line 65 is the code we'll focus on

speed= gives us our speed we're using (0 is stopped, 255 is max)

heading= gives us our heading in a 0-359 degree radius (more intuitive than last week)

# Drive With Heading - Distance

Distance is less intuitive this time, there is no “set distance”

```
time.sleep(1)
```

What the code above is saying is to let the previous code execute for 1 second.

To cover more distance, increase the number in `time.sleep()`

```
time.sleep(1.5)
```

```
time.sleep(2)
```

# Drive With Heading - Distance

Before starting the challenge:

Make a copy of *drive\_with\_heading.py* and rename it *Mission3.py*

We will be modifying the code within *Mission3.py*

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

# Drive With Heading - Challenge

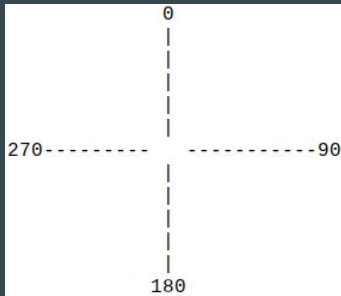
Again, line 25 through 65 is the code we're modifying here.

Challenge:

Make the sphero

1. move forward at  $\frac{1}{4}$  speed and left 90 degrees
2. move forward at  $\frac{1}{4}$  speed and right 90 degrees
3. move forward at  $\frac{1}{2}$  speed and turn 180 degrees
4. move forward at  $\frac{1}{2}$  speed and turn 180 degrees

Hint:



RVR will not stop in the location it started.

Step-by-step solution: <https://youtu.be/5Nf6glIrCrE>