

GoPiGo Python Tutorials

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Easy Movement

Learning points

- Functions
- Loops
- Movement
- GoPiGo Blinkers

```

1  #!/usr/bin/env python3
2  '''
3      Name: easy_movement.py
4      Author: William A Loring
5      Created: 09-18-21 Revised:
6      Purpose: Demonstrate a sampling of GoPiGo dead reckoning movements
7  '''
8  # Import the time library for the sleep function
9  import time
10 # Import GoPiGo3 library
11 from easygopigo3 import EasyGoPiGo3
12
13 # Create an instance of the GoPiGo3 class
14 # GPG is the GoPiGo3 object used to access methods and properties
15 gpg = EasyGoPiGo3()
16
17
18 #----- SQUARE RIGHT -----#
19 def square_right(distance):
20     """ Drive a right square """
21     # Loop four times
22     # Loop starts at 0,
23     # Ends at 1 less than the last number
24     # The loop increments 0, 1, 2, 3
25     print("Square Right")
26     for x in range(0, 4):
27         print(x)
28         gpg.led_off("right")
29         gpg.drive_inches(distance, True)
30         gpg.led_on("right")
31         gpg.turn_degrees(90)
32     gpg.led_off("right")
33
34
35 #----- SQUARE LEFT -----#
36 def square_left(distance):
37     """ Drive a left square """
38     print("Square Left")
39     for x in range(0, 4):
40         print(x)
41         gpg.led_off("left")
42         gpg.drive_inches(distance, True)
43         gpg.led_on("left")
44         gpg.turn_degrees(-90)
45     gpg.led_off("left")
46
47

```

```

48 #----- GOPIGO WAGGLE -----#
49 def waggle():
50     """ Waggle back and forth """
51     print("Waggle")
52     for x in range(0, 4):
53         print(x)
54         gpg.led_on("left")
55         gpg.turn_degrees(-10)
56         gpg.led_off("left")
57         gpg.led_on("right")
58         gpg.turn_degrees(10)
59         gpg.led_off("right")
60     gpg.led_off("right")
61     gpg.led_off("right")
62
63
64 def main():
65     """ Main Program Entry Point """
66     # Drive a square turning left
67     square_left(5)
68
69     # Turn left to reverse the square
70     print("Turn Left 90")
71     gpg.turn_degrees(-90)
72
73     # Drive a square turning right
74     square_right(5)
75
76     print("Spin left.")
77     gpg.spin_left()
78     time.sleep(1)
79
80     # Waggle back and forth
81     waggle()
82
83     print("Spin right.")
84     gpg.spin_right()
85     time.sleep(3)
86
87     print("Stop!")
88     gpg.stop()
89     print("Done!")
90
91 # If a standalone program, call the main function
92 # Else, use as a module
93 if __name__ == '__main__':
94     main()

```