



### Turtle Party!

*Using loops, functions, & variables to draw shapes with python turtle.*

#### Overview

**Congratulations** on progressing to Day 5! In Day 4 we made our triangle DRYer using a function & introduced a square function. Today we're integrating your newfound knowledge by creating general-purpose **polygon** and **spiral** functions.

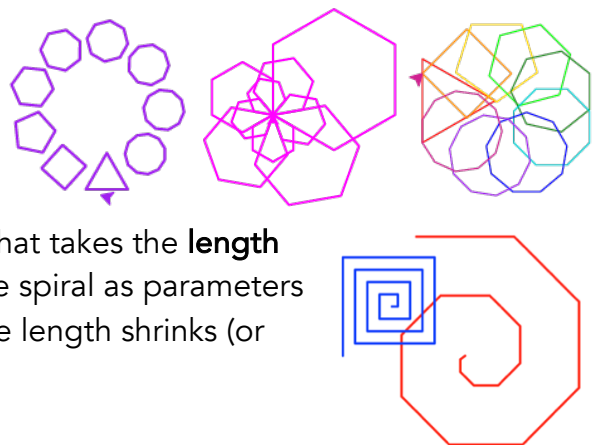
#### Video Introduction

Day 5: Turtle Party! <https://youtu.be/kBq9oRYpwrl>

#### Instructions

1. If you don't have your previous program open, **navigate to [trinket.io/turtle](https://trinket.io/turtle)** and replace any code with the code from Day 4's activity:
2. Let's generalize from our triangle & square functions to draw even more shapes. Create a **polygon** function that takes the **number of sides** and **length of each side** as parameters & draws the appropriate shape by turning 360 (the number of degrees in a circle) divided by the number of sides. **Challenge:** print an error message & draw nothing if there are less than 3 sides.

3. **Test** that your polygon function works by using a **loop** to draw multiple shapes. Some examples for inspiration:
4. **Challenge:** Create a **spiral** function that takes the **length of the longest side** and the **angle** of the spiral as parameters and draws a spiral shape where the side length shrinks (or grows) after every turn:



```
1 import turtle
2 turtle.color("red")
3
4 def back(len):
5     turtle.penup()
6     turtle.backward(len)
7     turtle.pendown()
8
9 def triangle(size):
10     for i in range(3):
11         turtle.forward(size)
12         turtle.left(120)
13
14 def square(size):
15     for i in range(4):
16         turtle.forward(size)
17         turtle.left(90)
18
19 square(100)
20 back(125)
21 square(50)
```

#### Video Solution

Day 5: Turtle Party! Walk Thru [https://youtu.be/f5dUg\\_0zauw](https://youtu.be/f5dUg_0zauw)



### What's next?

*Are you ready to take your python programming to the next level?*

#### Overview

Have you enjoyed the learning process over the course of the 5 Day Beginning Python Challenge? Do you feel we have been laying a strong foundation for your future mastery? **Your learning journey need not end today!**

#### Next Steps

1. **Coding career strategy session.** Ready to take your programming skills to the next level & land your dream job? Schedule a coding career strategy session: `>>> <<<`
2. **Deepen your learning.** Think of how much you've learned in **5 days** with the 5 Hour Coding Portfolio Minicourse, and imagine how much **more** you could learn with **2 more weeks**! Join the **Joy of Coding 7 Basics Bootcamp** to continue your mastery from zero to hero: [`<<<`](https://www.joyofcoding.com/7-basics-course)
  - **Deeper** coverage of **library functions**, **for loops**, writing **functions**, and professional **best practices** with **tons** of practice problems & solutions
  - **Full lessons** covering **if** conditions, **while** loops, as well as working with **strings** and **lists**
3. **Keep the conversation going.** Join the **Joy of Coding Facebook Group** to get daily feedback from the community on your learning as you progress from python beginner to programming master: [`<<<`](https://facebook.com/groups/joy.of.coding)
4. **Follow along!** Learn about new videos as they are released by subscribing to the Joy of Coding YouTube Channel: [`<<<`](https://youtube.com/@joyofcoding4all)