

## **Exercise 1: Random Polygons**

Objective:

Create a Python program using the `turtle` module to draw random polygons with random colors.

Steps to Follow:

1. Import the necessary modules (`turtle` and `random`).
2. Set up the turtle window with a white background.
3. Create a turtle and set its speed.
4. Use a loop to draw random polygons, where each polygon has a random number of sides (between 3 and 8) and a random color.
5. Experiment with different polygon sizes, colors, and arrangements to create an interesting composition.
6. Allow the program to draw a specified number of random polygons (e.g., 10).

## **Exercise 2: Turtle Race**

Objective:

Design a Python program using the `turtle` module to simulate a turtle race with random speeds.

Steps to Follow:

1. Import the necessary modules (`turtle` and `random`).
2. Set up the turtle window with a white background.
3. Create multiple turtles, each representing a participant in the race.
4. Assign a random speed to each turtle at the start of the race.
5. Simulate the race by moving the turtles forward by a random distance in each step.
6. Display the winner by comparing the distances traveled by each turtle.
7. Experiment with different aspects such as the number of participants, starting positions, and distances covered in each step.
8. Allow the program to run the race and display the winner.

These exercises aim to provide hands-on experience with the `turtle` and `random` modules, fostering creativity and problem-solving skills. Students can customize parameters and experiment with different ideas to enhance their understanding of randomization and graphical representation in Python.