

CIS 40 - Assignment 7

Write a Python script that draws a polygon with a user specified size and number of sides.

For this assignment, a polygon is a shape with a number of sides where all the sides are equal.

For example, a triangle is a polygon with 3 sides and all 3 sides are equal. A square is another polygon with 4 sides and all 4 sides are equal.

The script contains the following code:

1. drawPolygon function:

- input: a turtle object, the size of 1 side of the polygon, the number of sides of the polygon
- return: nothing

The function draws the polygon with the input number of sides, where each side is the input size. The function also fills the polygon with the same color as the border. You can choose a color for the polygon.

2. getSize function:

- input: nothing
- return: the size that the user enters

The function prompts the user and reads in the size of the polygon. The function checks that the input size is either 0 or is a number between 50 and 150, inclusive. Otherwise it keeps prompting the user until it gets a valid size.

3. getNumSides function:

- input: nothing
- return: the number of sides that the user enters

The function prompts the user and reads in the number of sides for the polygon. The function checks that the input number is between 3 and 10, inclusive, otherwise it keeps prompting the user until it gets a valid number.

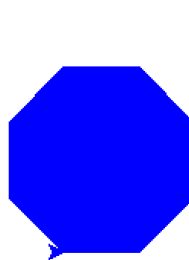
4. Driver code:

Loop to call the getSize function, the getNumSides function, and the drawPolygon function to keep drawing polygons, until the user chooses a size of 0.

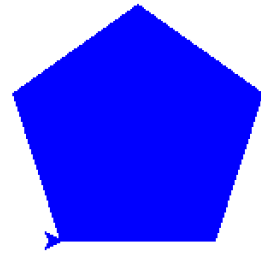
Each time that a new polygon is drawn, the previous polygon should be cleared from screen.

Example output, with input error:

```
Enter size of polygon (50-150): 40
Error: size must be between 50 and 150
Enter size of polygon (50-150): 200
Error: size must be between 50 and 150
Enter size of polygon (50-150): 50
Enter number of sides of polygon (3-10): 8
Enter size of polygon (50-150): 90
Enter number of sides of polygon (3-10): 2
Error: size must be between 3 and 10
Enter number of sides of polygon (3-10): 12
Error: size must be between 3 and 10
Enter number of sides of polygon (3-10): 5
Enter size of polygon (50-150): -2
Error: size must be between 50 and 150
Enter size of polygon (50-150): 0
>>> |
```



First polygon output



Second polygon output