Name_____ 03.02 for Loops

This assignment has three parts.

Part One: Write a program to draw a repetitive pattern or outline of a shape using for loops and Turtle Graphics. Use the following guidelines to write your program.

1. Decided on a repetitive pattern or the outline of a shape, such as a house, to draw.
2. Give your artwork a name. Print the name to the output.
3. Using for loops and the Turtle Module, draw the outline of a shape or a repetitive pattern.
4. At least one for loop that repeats three or more times must be used.
5. Use at least one color other than black.
6. Write the pseudocode for this program. Be sure to include any needed input, calculations, and output.

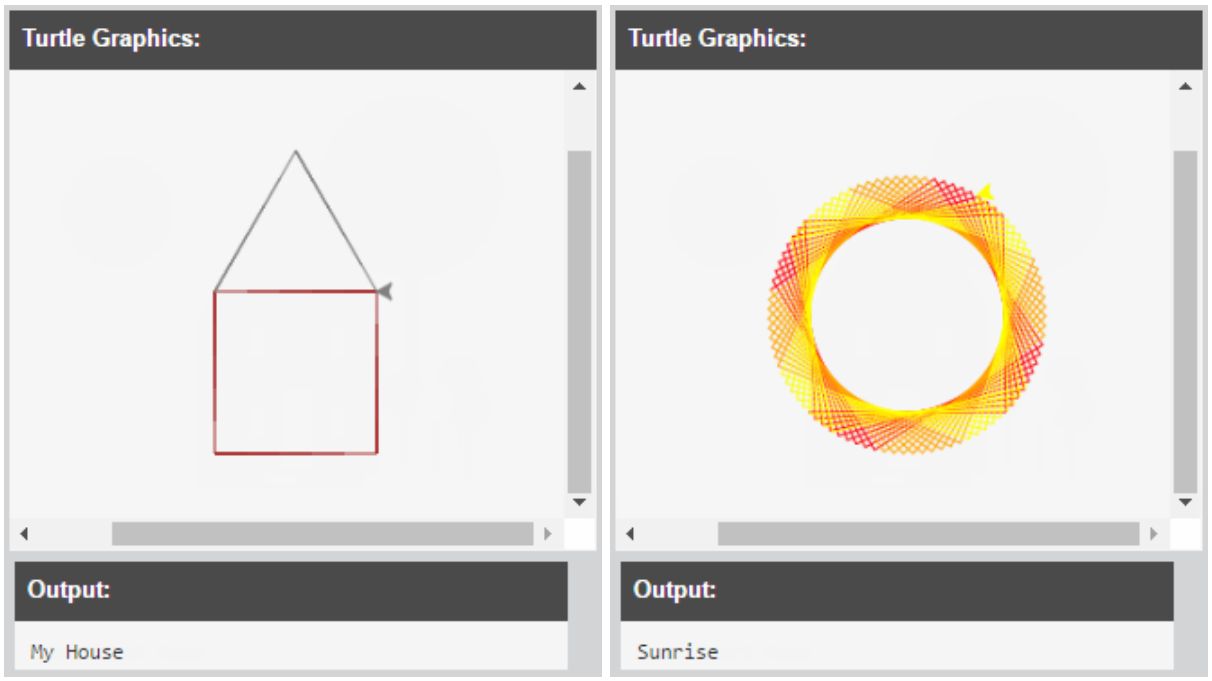
Insert your pseudocode here:

- **Import turtle**
- **Set widow to turtle.Screen**
- **Ste background color to white**
- **Set the title to Artwork: Star Spiral Pattern**
- **Set pen to turtle.Turtle**
- **Set the pen shapt to turtle**
- **Set the pen peed to 10**
- **When the windo is clicked close the window**
- **Set pen coor to blue**
- **Define draw_star**
    - **For range of 5**
        - **Pen more forward size**
        - **Pen right 144**
- **For i in 50**
    - **Call draw_star(i* 5)**
    - **Pen right 20**

Part Two: Code the program. Use the following guidelines to code your program.

1. To code the program, use the Python IDLE.
2. Using comments, type a heading that includes your name, today's date, and a short description of the program.
3. Follow the Python style conventions regarding indentation and the use of white space to improve readability.
4. Use meaningful variable names.

Example of expected output: The output for your program should resemble the following screen shot. Your specific results will vary depending on the choices you make and the input provided.



Insert a copy of your code from IDLE here:

```
import turtle



# Setup the window and turtle

window = turtle.Screen()

window.bgcolor("white")
```

```
window.title("Artwork: Star Spiral Pattern")


# Create the turtle object
pen = turtle.Turtle()
pen.shape("turtle")
pen.speed(10)  # Set the drawing speed
window.onclick(
    fun=lambda f1, f2:
        window.bye()
)


# Set a color for the turtle (not black)
pen.color("blue")


# Define function to draw a star
def draw_star(size):
    for _ in range(5):
        pen.forward(size)
        pen.right(144)  # Angle for drawing a star


for i in range(50):  # draw 50 stars in a spiral
    draw_star(i * 5)  # Increment star size with each iteration
    pen.right(20)     # Rotate the turtle slightly after each star
```

Part Three: Complete the Post Mortem Review (PMR). Write thoughtful two to three sentence responses to all the questions in the PMR chart.

Review Question	**Response**
What was the purpose of your program?	To create a program that draws a repetitive pattern. Using turtle Graphics and for loops.
How could your program be useful in the real world?	It could display a repetition of some material like holes in a piece of polycarbonate.
What is a problem you ran into and how did you fix it?	I didn't run into any issues while compiling nor writing my program.
Describe one thing you would do differently the next time you write a program.	Make my program more efficient.