Homework Assignment: Exploring Turtle Graphics

Problem 1: Drawing Basic Shapes

Step 1: Create a Python program using the Turtle module that draws the following shapes:
- A square
- A triangle
- A circle

Step 2: Use functions to encapsulate the code for drawing each shape.

Step 3: Customize the appearance of the shapes by changing the pen color, fill color, and pen size.

Problem 2: Drawing a Simple Pattern

Step 1: Develop a Python program that draws a repetitive pattern using the Turtle module. The pattern could be a geometric shape, such as a flower, or any creative design.

Step 2: Utilize loops to draw the pattern multiple times, creating a visually appealing and repetitive design.

Step 3: Experiment with different colors and shapes to enhance the pattern's visual appeal.

Problem 3: Creating an Interactive Turtle Art

Step 1: Create a Python program that allows the user to interact with the Turtle.

Step 2: Implement commands like "forward," "backward," "left," and "right" to move the Turtle.

Step 3: Add functionality to change the pen color, pen size, and even lift the pen to move without drawing.

Additional Challenge (Optional):
Include a feature that lets the user click on the Turtle screen to draw specific shapes or patterns at the clicked locations.

Grading Criteria:

1. Completeness of shapes drawn in Problem 1.
2. Proper use of functions to encapsulate drawing code in Problem 1.
3. Creativity and visual appeal of the pattern drawn in Problem 2.

4. Correct implementation of interactive features in Problem 3, including the ability to change pen settings and draw on the screen.
5. Neatness of code, clarity of comments, and overall code organization.

Submission Instructions:

1. Create a Python file for your solutions.
2. Add comments to explain your code.
3. Test your program to ensure it works correctly.
4. Submit your Python file as your homework assignment.