Chapter 10: Model Solutions

Below, you'll find sample solutions to the lab exercises in the book.

Lab Exercises 10.1

1. The purpose of creating a turtle object in turtle graphics is to represent the turtle as a drawing pen on a canvas. The turtle object can be moved and rotated to create drawings and patterns.

2. To move the turtle forward by a specified distance, you can use the `forward()` method. For example, `turtle.forward(100)` will move the turtle forward by 100 units.

3. To rotate the turtle's direction to the right by a specified angle, you can use the `right()` method. For example, `turtle.right(90)` will rotate the turtle's direction to the right by 90 degrees.

4. To lift the pen off the canvas so that the turtle can move without drawing, you can use the `penup()` method. For example, `turtle.penup()` will lift the pen off the canvas.

5. To set the width of the pen (line thickness) in turtle graphics, you can use the `pensize()` method. For example, `turtle.pensize(3)` will set the pen width to 3 units.

6. Program to draw a circle:

```
import turtle

turtle.circle(100)

turtle.done()
```

7. Program to draw a square:

```
import turtle

for _ in range(4):
    turtle.forward(100)
    turtle.right(90)

turtle.done()
```

8. Program to draw a triangle:

```
import turtle

for _ in range(3):
    turtle.forward(100)
    turtle.right(120)

turtle.done()
```