**Assigned: Monday, October 24 David Schmidt**

**Due: Monday, October 30**

**20 points**

**Objective: Working with turtle graphics to explore ideas related to objects and object-oriented programming.**

1. Answer Chapter Exercise Questions 5-9 on pages 243-244 in a MS Word Doc. Retype the question before answering it. **Print this document** **and staple it to this sheet to hand in on the due date**. (10 pts)

5. Give a set of instructions that gets the default turtle and sets it to an actual turtle shape.

6. For each of the following method calls on turtle *the\_turtle*, indicate in what part of the screen the turtle will be placed relative to the center of the screen.

a. the\_turtle.setposition(0, 0)

b. the\_turtle.setposition(-100, 0)

c. the\_turtle.setposition(-50, 0)

d. the\_turtle.setposition(0, -50)

7. For the following method calls on turtle *the\_turtle*, describe the shape that will be drawn.

8. What color line will be drawn in the following?

9. What will be displayed by the following turtle actions?

B. Write one Python program for each question containing the requested functions in Python Programming Exercises P1 and P7. Your solution on P7 MUST include at least one loop, one selection statement, and the use of a list. Be creative!

Test your functions by calling them with some sample parameters. Use print statements to display the results on the console. When the displayed results show the functions work correctly, collect a screen capture of the output, paste it into a Word doc. Copy your code into this document as well and **print this document and staple it to this sheet to hand in on the due date.** (5 pts)

P1. import turtle

turtle.setup(800, 600)

window = turtle.Screen()

window.title('My First Turtle Graphics Program')

the\_turtle = turtle.getturtle()

the\_turtle.setposition(-400,300)

the\_turtle.setposition(400, -300)

the\_turtle.penup()

the\_turtle.setposition(400,300)

the\_turtle.pendown()

the\_turtle.setposition(-400, -300)

print('My First Turtle Graphics Program')

P7. import turtle

turtle1 = turtle.Turtle()

turtle2 = turtle.Turtle()

turtle3 = turtle.Turtle()

turtle4 = turtle.Turtle()

turtle5 = turtle.Turtle()

turtles = []

turtles.append(turtle.Turtle())

turtles.append(turtle.Turtle())

turtles.append(turtle.Turtle())

turtles.append(turtle.Turtle())

turtles.append(turtle.Turtle())

def secondturtle(turtle, polygon):

turtles = []

if turtle < polygon:

return True

else:

return False

turtle.setup(800, 600)

window = turtle.Screen()

window.title('My Second Turtle Graphics Program')

the\_turtle = turtle.getturtle()

turtle.register\_shape('mypolygon', ((0, 0), (200, 0), (280,80), (100, 50)))

the\_turtle.shape('mypolygon')

the\_turtle.fillcolor('red')

for angle in range(0, 360, 5):

the\_turtle.setheading(angle)

the\_turtle.stamp()

print('mypolygon')

C.

Write a Python program using turtle graphics to display the Olympic logo. Be as accurate as possible. When the logo is displayed, collect a screen capture of the output, and paste it into a Word doc. Copy your code into this document as well and **print this document and staple it to this sheet to hand in on the due date.** (5 pts)

import turtle

turtle.setup(800, 600)

window = turtle.Screen()

window.title('My Third Turtle Graphics Program')

the\_turtle = turtle.getturtle()

the\_turtle.pensize(10)

the\_turtle.color('green')

the\_turtle.circle(50)

the\_turtle.penup()

the\_turtle.setposition(-120, 0)

the\_turtle.pendown()

the\_turtle.color('yellow')

the\_turtle.circle(50)

the\_turtle.penup()

the\_turtle.setposition(60,60)

the\_turtle.pendown()

the\_turtle.color('red')

the\_turtle.circle(50)

the\_turtle.penup()

the\_turtle.setposition(-60,60)

the\_turtle.pendown()

the\_turtle.color('black')

the\_turtle.circle(50)

the\_turtle.penup()

the\_turtle.setposition(-180,60)

the\_turtle.pendown()

the\_turtle.color('blue')

the\_turtle.circle(50)

print('My Third Turtle Graphics Program')