Computer Science 1	Lab 08B Practice/Perform Major Python Assignment
Repetition with Traditional Graphics	50, 60, 70, 80, 90, 100 & 110 Point Versions

Assignment Purpose:

The purpose of this program is to reinforce understanding of using repetition control structures, like the **for** loop, visually using *Traditional Graphics*.

For this lab assignment you are provided with a grid of two rows by four columns. Each cell in the grid needs some graphics object to be drawn. It will be necessary to use procedures from the **Graphics** library to complete this assignment. The use of the grid is intentional. One cell will be done for you as an example. In the other 7 cells you will need to display some type of shape multiple times. Please realize that **A REPETITION CONTROL STRUCTURE MUST BE USED!** For example, one cell has 15 concentric circles. You are **NOT** allowed to simply type 15 **drawCircle** commands. You need one **drawCircle** command inside a **for** loop that will make it repeat 15 times.

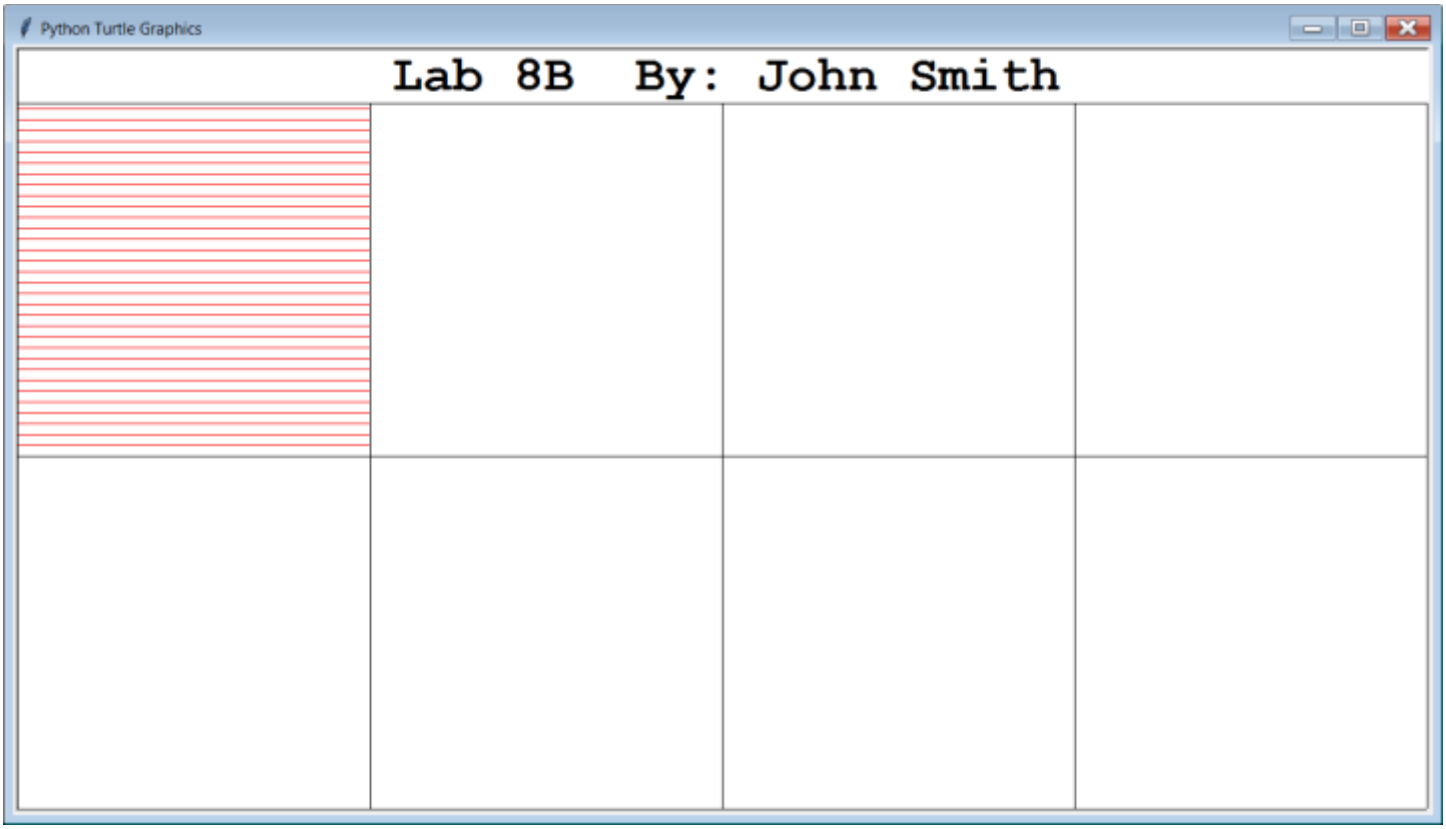
Lab 08B Student Version	Do not copy this file, which is provided.

```
# Lab08Bst.py
# "Repetition With Traditional Graphics"
# This is the student, starting version of Lab 08B.


from Graphics import *

beginGrfx(1300,700)

# Substitute your own name here.
drawHeading("John Smith","8B")

# Draw Grid
drawLine(325,50,325,700)
drawLine(650,50,650,700)
drawLine(975,50,975,700)
drawLine(1300,50,1300,700)
drawLine(0,375,1300,375)
drawLine(0,700,1300,700)

# Draw Red Horizontal Lines
setColor("red")
x1 = 0
y1 = 55
x2 = 325
y2 = 55
for k in range(32):
    drawLine(x1,y1,x2,y2)
    y1 += 10
    y2 += 10

```

```
32
33 # Draw Blue Vertical Lines
34
35
36
37
38
39
40 # Draw Magenta Diagonal Dots
41
42
43
44
45
46
47 # Draw Green Concentric Circles
48
49
50
51
52
53
54 # Draw Purple Concentric Ovals
55
56
57
58
59
60
61 # Draw Brown Concentric Squares
62
63
64
65
66
67
68 # Draw Black Concentric Regular Polygons
69
70
71
72
73
74
75 # Draw Gold Sphere
76
77
78
79
80
81
82
83 endGrfx()
```

Current Output of Lab07Bst.py

At the beginning, the output is a 4 by 2 grid, with the “Red Horizontal Lines” cell done for you.



50, 60, 70, 80, 90, 100 & 110-Point Version Specifics

The 110-point version is shown on the next page and displays ALL 8 cells.

The 100-point version displays 7 of the 8 cells (Red Horizontal Lines, and 6 others).

The 90-point version displays 6 of the 8 cells (Red Horizontal Lines, and 5 others).

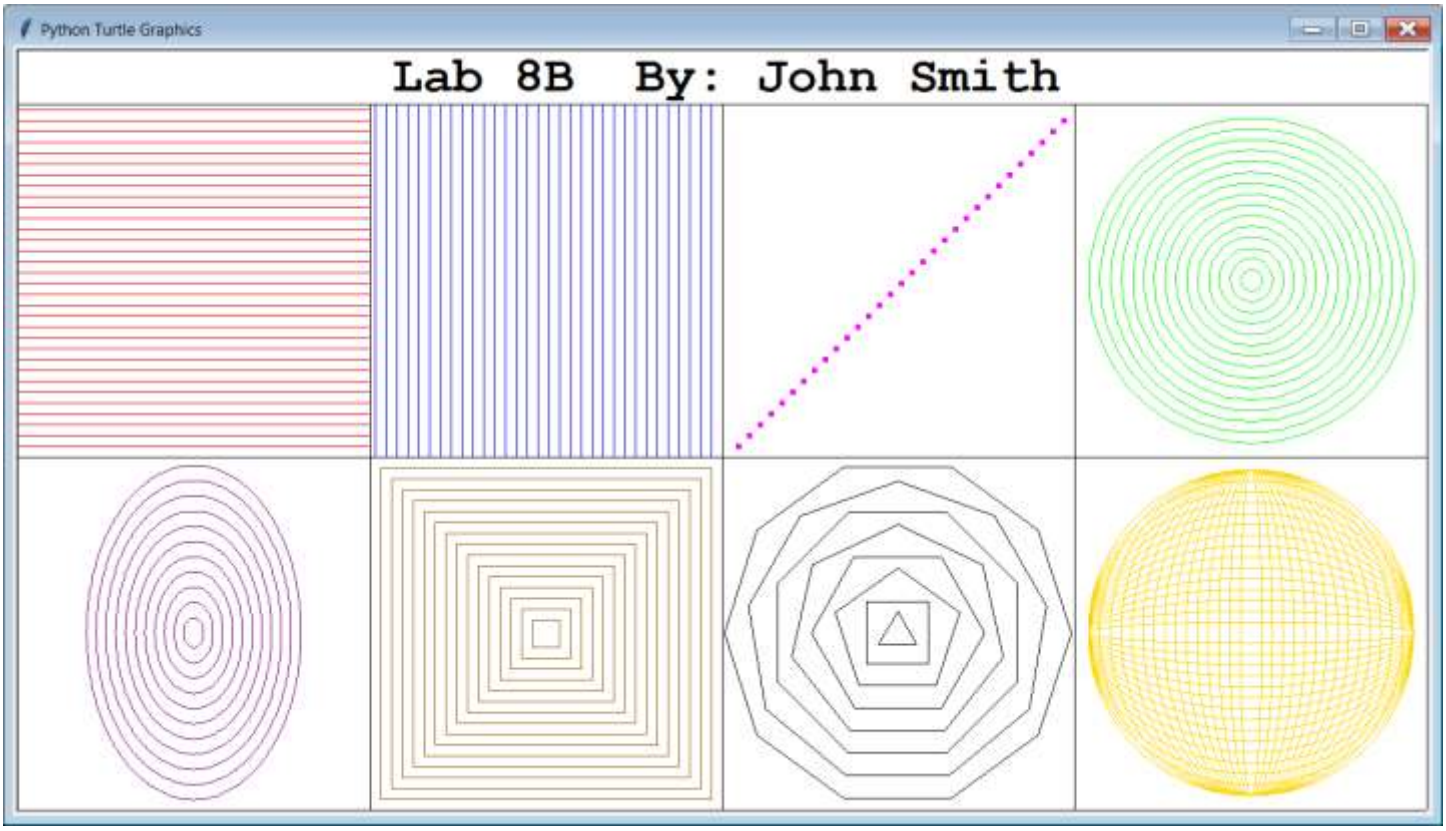
The 80-point version displays 5 of the 8 cells (Red Horizontal Lines, and 4 others).

The 70-point version displays 4 of the 8 cells (Red Horizontal Lines, and 3 others).

The 60-point version displays 3 of the 8 cells (Red Horizontal Lines, and 2 others).

The 50-point version displays 2 of the 8 cells (Red Horizontal Lines, and 1 other).

110-Point Version Output



NOTE: You can do these in any order you wish, but the *Golden Sphere* is the hardest, so it is recommended that you do that cell last.

ALSO: Your computer science teacher may choose to rearrange these cells when you do this for a grade on the "Day of Reckoning".