

Computer Science 1	Lab 08B
Repetition with Traditional Graphics	Practice/Perform Major Python Assignment
Assignment Purpose:	
The purpose of this program is to reinforce understanding of using repetition control structures, like the for loop, visually using <i>Traditional Graphics</i> .	

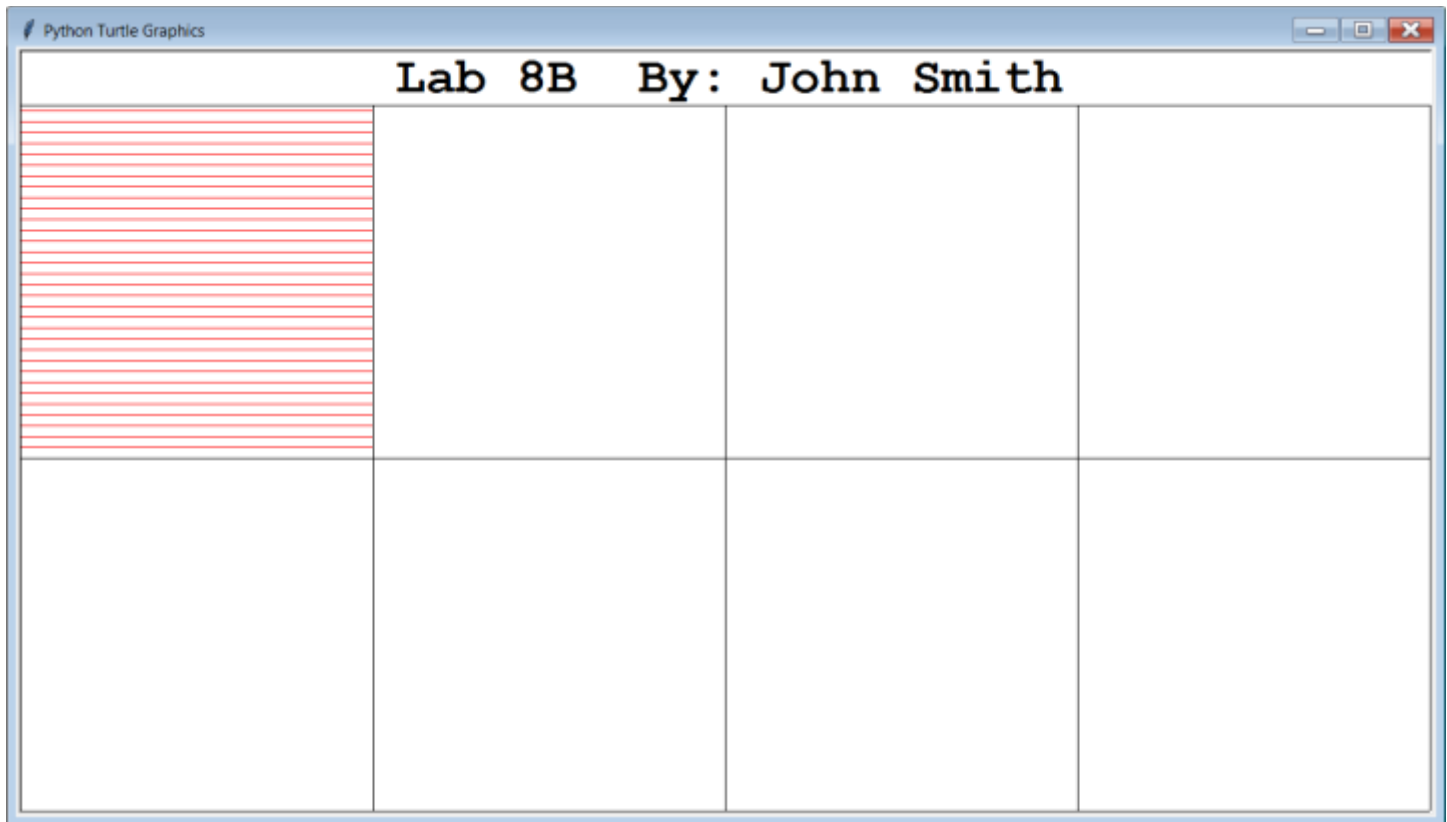
For this lab assignment you are provided with a grid of two rows by four columns. Each cell in the grid needs some graphics object to be drawn. It will be necessary to use procedures from the **Graphics** library to complete this assignment. The use of the grid is intentional. One cell will be done for 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.
<pre> 1 # Lab08Bst.py 2 # "Repetition With Traditional Graphics" 3 # This is the student, starting version of Lab 08B. 4 5 6 from Graphics import * 7 8 beginGrfx(1300,700) 9 10 # Substitute your own name here. 11 drawHeading("John Smith", "8B") 12 13 # Draw Grid 14 drawLine(325,50,325,700) 15 drawLine(650,50,650,700) 16 drawLine(975,50,975,700) 17 drawLine(1300,50,1300,700) 18 drawLine(0,375,1300,375) 19 drawLine(0,700,1300,700) 20 21 # Draw Red Horizontal Lines 22 setColor("red") 23 x1 = 0 24 y1 = 55 25 x2 = 325 26 y2 = 55 27 for k in range(32): 28 drawLine(x1,y1,x2,y2) 29 y1 += 10 30 y2 += 10 31 </pre>	

```
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()
84
```

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).

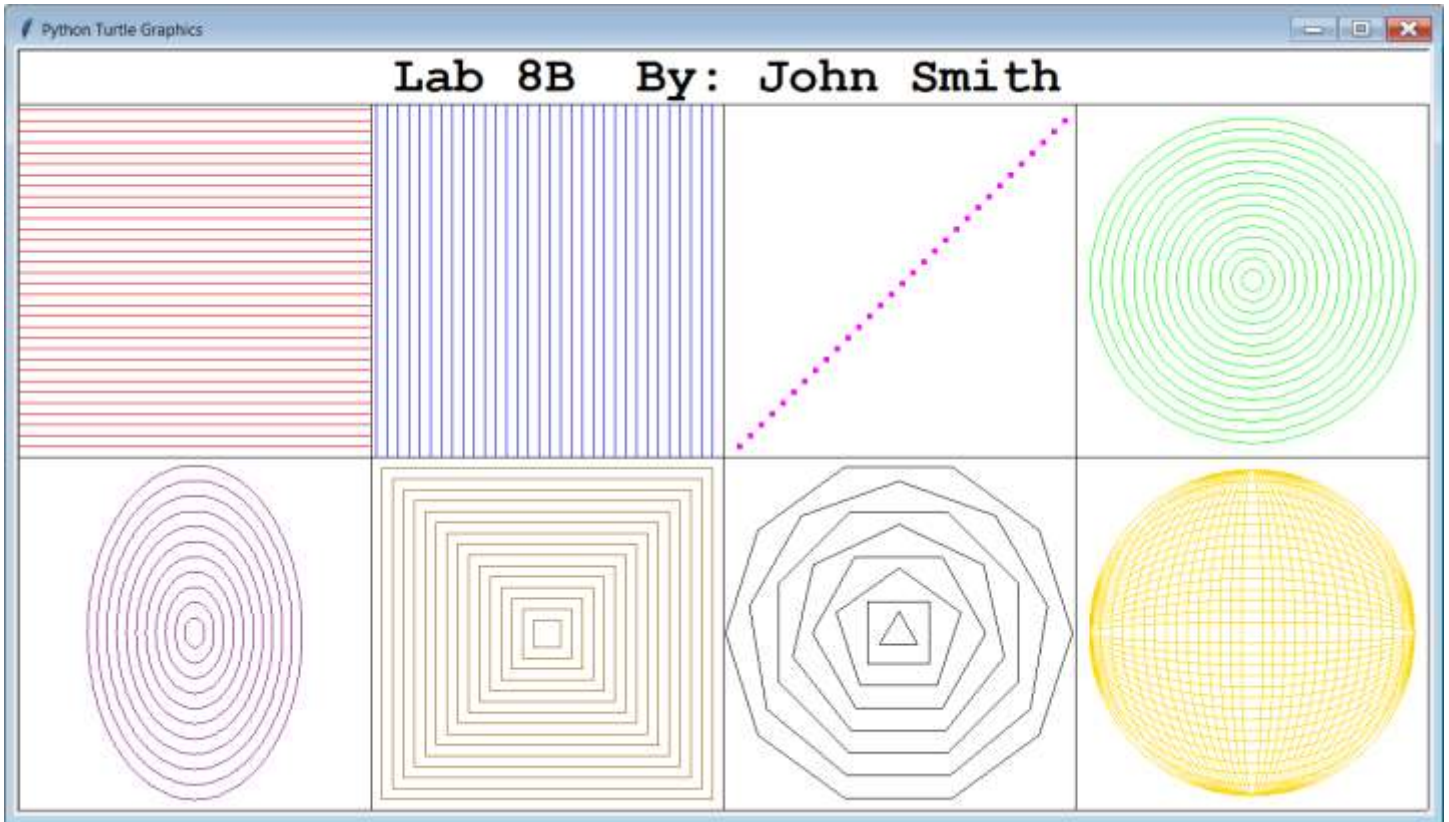
The 80-point version displays 5 of the 8 cells (Red Horizontal Lines, and 4 others).

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.