Laboratory Exercise
Python's Turtle

Objective:

At the end of the exercise, the students should be able to:

▪ Draw lines and shapes using Python.

Software Requirement:

▪ Python 3.7 or higher

Procedure:

1. Launch **IDLE**. IDLE is Python's Integrated Development and Learning Environment.

2. Type **import turtle**. The **turtle** module is a pre-installed Python library that allows users to draw on a virtual canvas.

3. To launch the turtle screen, initialize a variable to execute the getscreen() command. Example: **ts = turtle.getscreen()**

4. The tiny shape in the middle of the screen is referred to as the **turtle**. Initialize another variable to control your turtle. Example: **t = turtle.Turtle()**

5. You can make the turtle move forward using the forward() or fd() function. Indicate a number (integer of float) within the parentheses to specify the distance. Example: **t.forward(50)**

   To make the turtle move backward, use any of these functions: back(), bk(), backward().

6. You can make the turtle turn right using the right() or rt() function. Indicate a number (integer of float) within the parentheses to specify the angle. Example: **t.right(90)**

   To make the turtle turn left, use left() or lt().

   If you want the turtle to move to its origin, enter the home() command.

7. You can undo the previous action using the undo() command or delete the turtle's drawings using the clear() command. Examples: **t.undo()**, **t.clear**()

   If you want to delete the turtle's drawings, re-center the turtle, and set everything to default, use reset(). Example: **t.reset()**

8. To draw a circle, use the circle() function. Indicate a number (integer of float) within the parentheses to specify its radius. Example: **t.circle(50)**

9. You can set the line color using the color() function. Example: **t.color("red")**

To fill a shape with color, enter the begin_fill() command before you draw the shape. Once done, enter the end_fill() command.

Example:

t.color("red")
t.begin_fill()
t.circle(50)
t.end_fill()

10. Draw a simple cartoon character using the commands above. To make the turtle move without drawing, use penup(). Example: **t.penup()**

To make it draw again while moving, use **pendown()**.

11. Show/submit your code and output to your instructor.

12. Save a copy of your code for future use.

Grading Rubric:

CRITERIA	PERFORMANCE INDICATORS	POINTS
Variety	Various commands were used to produce the output.	30
Visual Impact	The output consists of lines and shapes that are visually appealing.	20
TOTAL		**50**