

## In-Class Question 7

Question)

Here is a turtle program.

```
import turtle

turtle.width(5)

for change in range(-1, 2, 2):
    radius = 200
    for color in [ SEE_QUESTION ]:
        turtle.up()
        turtle.goto(0, -radius)
        turtle.down()

        turtle.color(color)
        turtle.circle(radius)

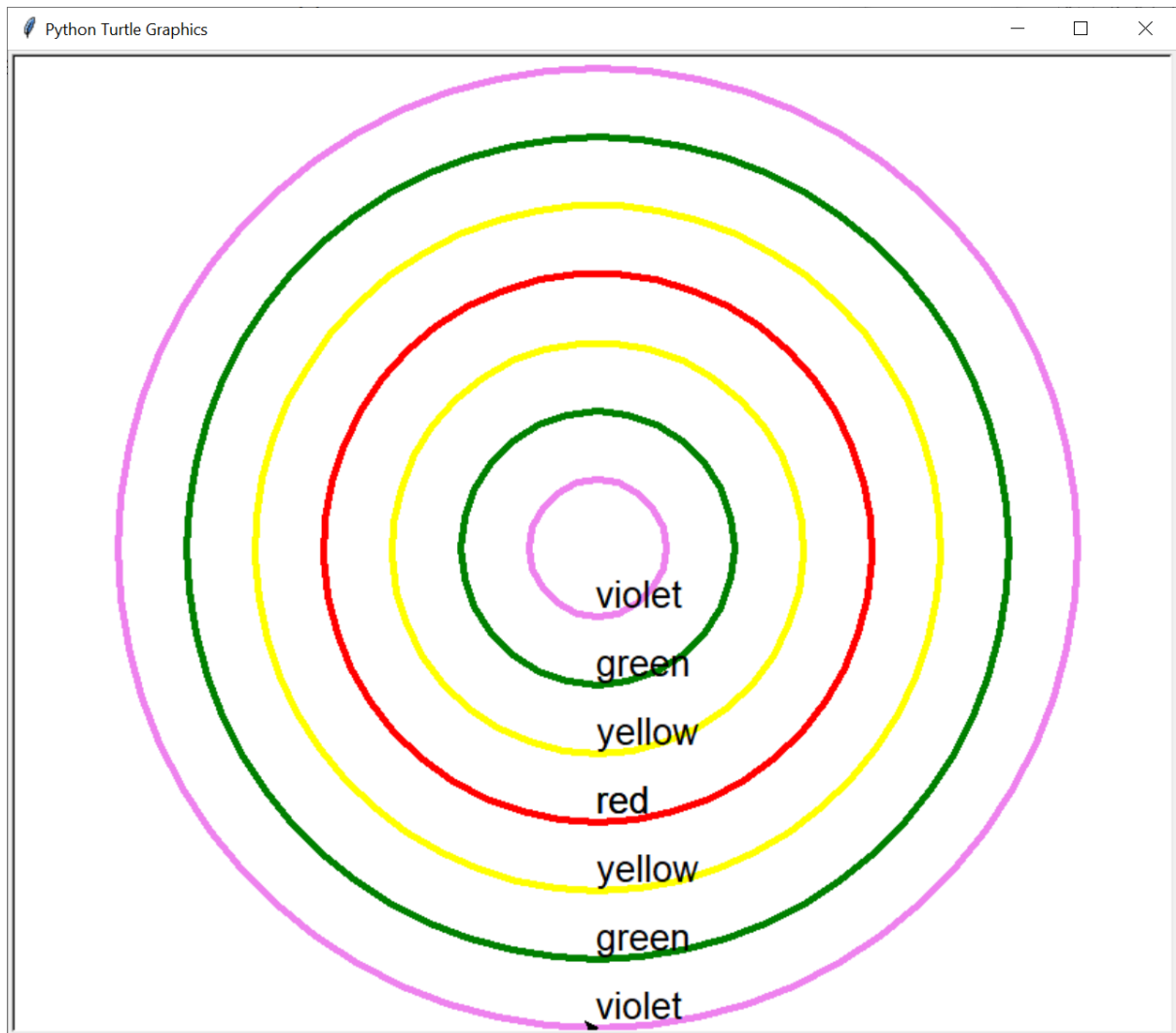
        turtle.color("black")
        turtle.write(color, font=("Arial", 20, "normal"))

        radius = radius + 50 * change

turtle.done()
```

As you can see, the content of **SEE\_QUESTION** is not shown in the above code.

If you run the program, the turtle window will show the following content after the program finishes.



What is the missing code that needs to replace **SEE\_QUESTION**? You need to enter the missing code. Don't enter the brackets.

For your answer, only enter the content of the list. For example, if the answer contains the colours "red", "green" and "blue", the answer will be:

"red", "green", "blue"

Correct answer(s):

- "red","yellow","green","violet"
- 'red','yellow','green','violet'

Explanation:

- The program uses a nested loop to create the image
- The outer loop:

```
for change in range(-1, 2, 2):
```

runs twice with the values -1 and 1

- When the outer loop runs the first time, the inner loop draws some circles with a decreasing radius starting from 200
- Similarly, when the outer loop runs the second time, the inner loop draws another set of circles with an increasing radius starting from 200
- By counting the number of circles in the output window, you know the inner loop runs 4 times, as there are 9 circles in the turtle window
- This implies the blank should contain 4 items so that 4 circles can be drawn
- From the use of the `color` variable, you can see the items are colour names
- Therefore, you should fill the blank with the colours shown in the turtle window, i.e. "red", "yellow", "green", "violet"