CSCI 107, Second Practicum – Wednesday, October 20, 2021

Submit your solutions in a file named YourFirstName-YourLastName.py to the CSCI 107 ***Practicum 2 Dropbox*** *no later than 3:00 p.m.*

Question One. 30 points. One of the built-in Python modules (or libraries) is named **keyword**. Use the online documentation for this module to write a short Python program that asks the person to enter a word. The program then prints a message stating whether the user's word is a Python keyword. (A keyword is a word that is built into the Python language such as the word **while**.) The transcript below shows four separate runs of the program using the words **for**, **in**, **csci** and **107**.

```
========== RESTART: C:\Users\n57g588\Desktop\p2.py ==========
Enter word: for
for is a Python keyword.

========== RESTART: C:\Users\n57g588\Desktop\p2.py ==========
Enter word: if
if is a Python keyword.

========== RESTART: C:\Users\n57g588\Desktop\p2.py ==========
Enter word: csci
csci is not a Python keyword.

========== RESTART: C:\Users\n57g588\Desktop\p2.py ==========
Enter word: 107
107 is not a Python keyword.
```

Question Two. 30 points. The Air Quality Index (AQI) measures the level of air pollution according to the table below.

Daily AQI Color	Levels of Concern	Values of Index
Green	Good	0 to 50
Yellow	Moderate	51 to 100
Orange	Unhealthy for Sensitive Groups	101 to 150
Red	Unhealthy	151 to 200

Write a function that when integrated with this Python code:

```
for index in range(0, 201, 25):
    print("AQI of", index, "is", air_quality_index(index))
```

produces the following output exactly:

```
==================== RESTART: C:\Users\n57g588\Desktop\p2.py ============
AQI of 0 is Good
AQI of 25 is Good
AQI of 50 is Good
AQI of 75 is Moderate
AQI of 100 is Moderate
AQI of 125 is Unhealthy for Sensitive Groups
AQI of 150 is Unhealthy for Sensitive Groups
AQI of 175 is Unhealthy
AQI of 200 is Unhealthy
```

Question Three. 40 points. Supply the missing function so that when the follow code is run, the picture below is drawn. Hint: There is a function in the **turtle** library called **circle**.

```
import turtle

# ------------------------------------------------

def main():
    pencil = turtle.Turtle()
    pencil.hideturtle()
    pencil.speed(0)
    radius = 100            # radius of circle
    x = 0                   # x coordinate of bottom of circle
    y = 0                   # y coordinate of bottom of circle

    for color in ["red", "orange", "yellow", "green", "blue", "indigo", "violet"]:
        draw_circle(pencil, radius, x, y, color)
        radius = radius - 10
        y = y + 10

#  ------------------------------------------------

main()
```