CSCI 107, Third Practicum – Monday, May 9, 2022

Submit your solutions in a file named YourFirstName-YourLastName.py to the CSCI 107 ***Practicum 3 Dropbox*** *no later than 11:50 a.m.*

Question One. 20 points. Write a python program that asks the user to enter their birth year, their birth month (e.g. 1 for January, 2 for February, etc.) and their birth day. The program should then print the name of the day of the week when the person was born. Match the output of the sample transcript below exactly. Hint: Use the online documentation at docs.python.org to read about the **calendar** module.

```
=============== RESTART: C:\Main Directory\Classes\CSCI
Enter birth year: 2022
Enter birth month (1 for January, etc.): 5
Enter birth day: 9
You were born on a Monday
>>>
```

Question Two. 20 points. Supply the missing function for the program below such that the drawing below is produced. The only code that you write should appear in the missing function. Do not add any code anywhere else.

```python
import turtle

def main():
    # draw a blue rectangle whose top left corner is at (-150, 100),
    # whose width is 300 and whose height is 100
    rectangle("blue", -150, 100, 300, 100)

    # now draw the yellow rectangle
    rectangle("yellow", -150, 0, 300, 100)

main()
```
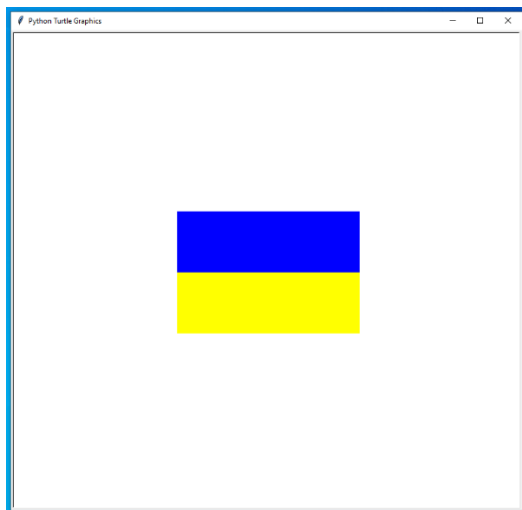
Question Three. 20 points. Write a function named **pad_string** that has two parameters: (1) the string that needs to be padded and (2) the padding string. The function should create and return a new string where the original string is expanded to include the padding string in each possible position. For example, if the code below is executed, the output below should be produced.

```
result = pad_string("Have a great summer", "!!")
print(result)
```

```
=============== RESTART: C:\Main Directory\Classes\CSCI 107\p3.py ====
!!H!!a!!v!!e!! !!a!! !!g!!r!!e!!a!!t!! !!s!!u!!m!!m!!e!!r!!
>>>
```

Question Four. 20 points. Write a function named **sequence_while** that has two parameters: (1) a starting number that is a non-negative integer and (2) a second integer. While the starting number is not larger than the second integer, the function should print the starting number and then modify it as follows. If the starting number is even, 7 should be added. If the starting number is odd, the starting number should be multiplied by 5 and then 3 should be added. ***The function must be implemented using a while loop.***

For example, if the code below is executed, the output below should be produced.

```
sequence_while(1, 435)
```

```
=============== RESTART: C:\Main Directory\Classes\
1
8
15
78
85
428
435
>>>
```

Question Five. 20 points. Repeat question four but this time name the function **sequence_recursion**. ***The function must be implemented using recursion.***