Overview

This program is a simple Number Guessing Game where the user needs to guess a randomly generated number between 1 and 10.

The game allows the user a maximum of 3 attempts to guess the correct number.

It incorporates concepts related to packages, functions, recursion and memory addresses.
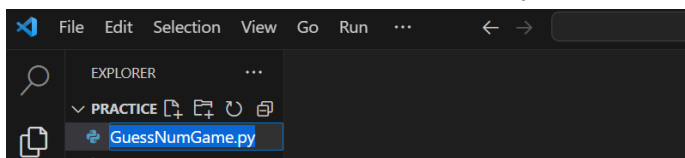
Pre-requisites:
1. Github account
2. Git
3. VSCode
4. Python
5. Basic understanding of Python syntax.
6. Basic understanding of functions, recursion and packages
7. Familiarity with git commands

Instructions:

- Once, you need to upload the following program in github and then commit the changes.

1. Create a file with extension .py. The name of the file can be anything, however for this practical, save it as "GuessNumGame.py":

2. Import standard package for later use:

```python
#Importing the random module
import random

```

3. Then add the following code to generate random number and provide guessing limit:

```python
# Generate a random number between 1 and 10
secret_number = random.randint(1, 10)

# Maximum attempts allowed
max_attempts = 3

```

4. Create a function to welcome the user:

```
10    # Function to display a welcome message
11    def welcome_message():
12        print("\nWelcome to the Number Guessing Game!")
13        print(f"You have {max_attempts} attempts to guess the correct number.")
14
```

5. Then, create a following recursive function:

```
15    # Function for recursive guessing
16    def guess_recursive(attempts_left):
17        # Get user input
18        guess = int(input("\nGuess the number (between 1 and 10): "))
19
20        # Check if the guess is correct
21        if guess == secret_number:
22            print("Congratulations! You guessed the correct number!")
23        else:
24            print(f"Wrong guess. Attempts left: {attempts_left-1}")
25            if attempts_left > 1:
26                # Make a recursive call for another guess
27                guess_recursive(attempts_left - 1)
28            else:
29                print(f"\nSorry, you couldn't guess the number. The correct number was {secret_number}.")
30
```

6. Calling a function for the execution:

```
31    # Calling the function
32    welcome_message()
33    guess_recursive(max_attempts)
```

7. Printing memory address of the secret number:

```
34
35    # Using id() to get memory addresses
36    print(f"Memory address of Secret Number {secret_number} is: {id(secret_number)}")
```

Exercise:
Find the First Repeating Character and Print its Memory Address

You are tasked with writing a Python function that finds the first repeating character in a given string and prints its memory address.

Write a Python function named find_first_repeating_character that takes a string s as input and returns the first repeating character in the string along with its memory address.

Your function should:
- Iterate through the characters in the string s.
- Maintain a dictionary to store the count of each character encountered.
- As soon as you encounter a character for the second time, print the character along with its memory address and return it.
- If no repeating character is found, the function should return None.

Expected Output:
```
The memory address of the first repeating character 'p' is: 2646793163696
```