**PYTHON PROGRAMMING**

**ASSIGNMENT WEEK 2**

1.What if a query string appears twice in the string? Discuss.

When a query string appears twice in a string, it can lead to various scenarios and considerations. Let’s delve into the details:

1. **Regex Approach**:
   * If you want to identify a **single letter** that appears twice consecutively in a string, you can use regular expressions (regex). For instance:
     + Given the string: ugknbfddgicrmopn
     + The output would be: dd
     + The regex pattern to achieve this is: ([a-z])\\1
     + Explanation:
       - ( [a-z]) captures a single lowercase letter.
       - \\1 refers back to the first captured group, ensuring that the same letter appears twice.
   * If you want to find all such occurrences, you can use:
     + [i+i for i in re.findall(r'([a-z])\\1', 'abbbbcppq')]
     + Output: ['bb', 'bb', 'pp']
2. **Non-Contiguous Occurrences**:
   * The above approach assumes contiguous occurrences. If you want to find non-contiguous instances (e.g., abbbcppq), where the letter appears twice but not necessarily consecutively, consider using Pythonic methods like zip:
     + Given the string: abbbcppq
     + Output: ['bb', 'bb', 'pp']
3. **Other Considerations**:
   * What if the letter appears more than twice? You’ll need to define the desired behavior.
   * If you’re looking for non-case-sensitive matches, convert the string to lowercase before applying any checks.

Remember that these approaches are specific to identifying repeated letters within a string. [Depending on your exact requirements and context, you may need to adjust your approach accordingly](https://stackoverflow.com/questions/34261346/find-one-letter-that-appears-twice-in-a-string)[1](https://stackoverflow.com/questions/34261346/find-one-letter-that-appears-twice-in-a-string)[2](https://datascienceparichay.com/article/python-check-if-character-appears-twice-in-string/).

2.Can asks console input and searches for a query?

Certainly! Let’s break down the process of taking user input and searching for a query:

1. **Taking User Input in Python**:
   * To accept input from a user, Python provides two built-in functions:
     + input(prompt): This function displays a prompt to the user and waits for their input. It returns the entered value as a string.
     + raw\_input(prompt) (available in Python 2.x): Similar to input(), but it directly returns the typed string without any conversion.
   * Example using input():
   * name = input("What is your name?\n")
   * print("Hello,", name)
   * Example using raw\_input() (Python 2.x):
   * g = raw\_input("Enter your name: ")
   * print(g)
2. **Searching for a Query**:
   * Once you have user input, you can use it to search for information. For web searches, you can use search engines or APIs.
   * For example, if you want to search for a query using Bing (like I do), you can construct a search URL with the user’s input and retrieve relevant results.

Remember that handling user input securely is essential to prevent issues like code injection or unexpected behavior. [Always validate and sanitize user input before using it in any context](https://www.geeksforgeeks.org/taking-input-in-python/)[1](https://www.geeksforgeeks.org/taking-input-in-python/)[2](https://www.pythonforbeginners.com/basics/how-to-take-user-input-in-python)[3](https://pynative.com/python-input-function-get-user-input/).