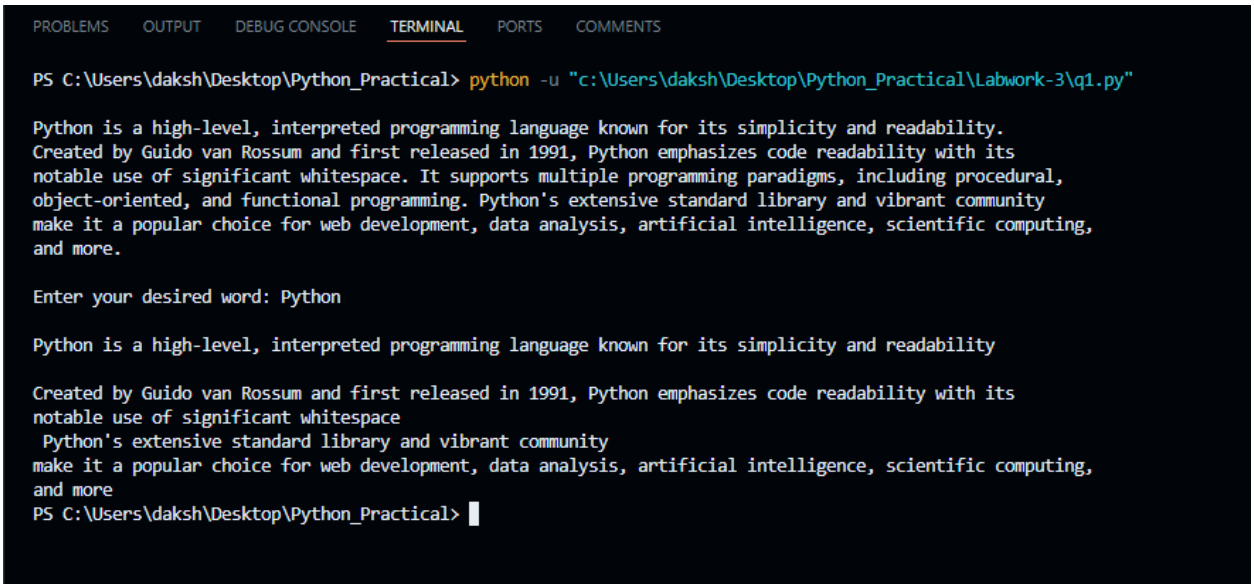
PYTHON ASSIGNMENT - 3

Q1. `Triple Quotes`

Code:-

```
paragraph = """

Python is a high-level, interpreted programming language known for its simplicity and readability.

Created by Guido van Rossum and first released in 1991, Python emphasizes code readability with its

notable use of significant whitespace. It supports multiple programming paradigms, including procedural,

object-oriented, and functional programming. Python's extensive standard library and vibrant community

make it a popular choice for web development, data analysis, artificial intelligence, scientific computing,

and more.

"""


print(paragraph)


word = input("Enter your desired word: ")


sentence = paragraph.split(".")


for sentence in sentence:
   if word in sentence:
      print(sentence)
```

Output:

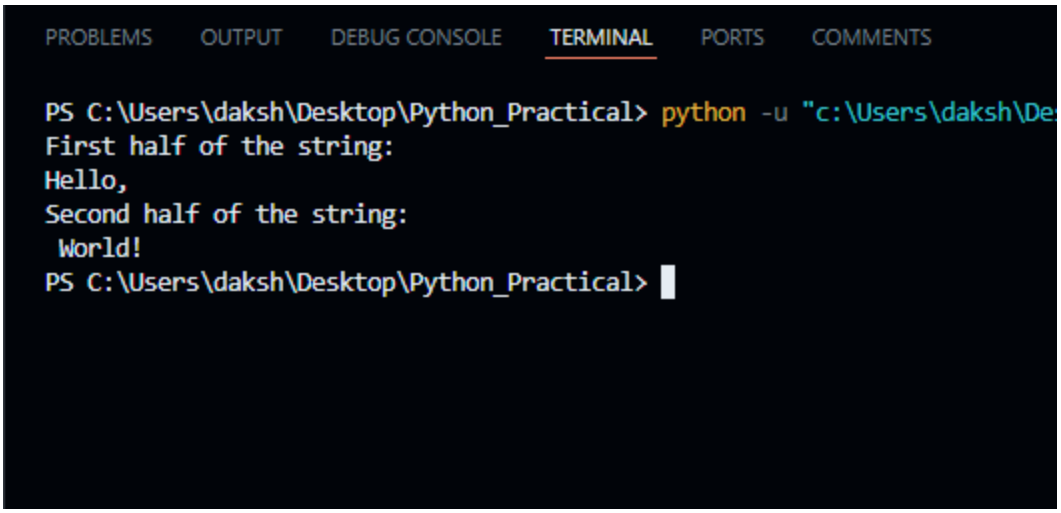


Q2.Slicing String

Code:-

```
string = "Hello, World!"


length = int(len(string)/2)


print("First half of the string: ")

print(string[0:length])


print("Second half of the string: ")

print(string[length:])
```

Output:



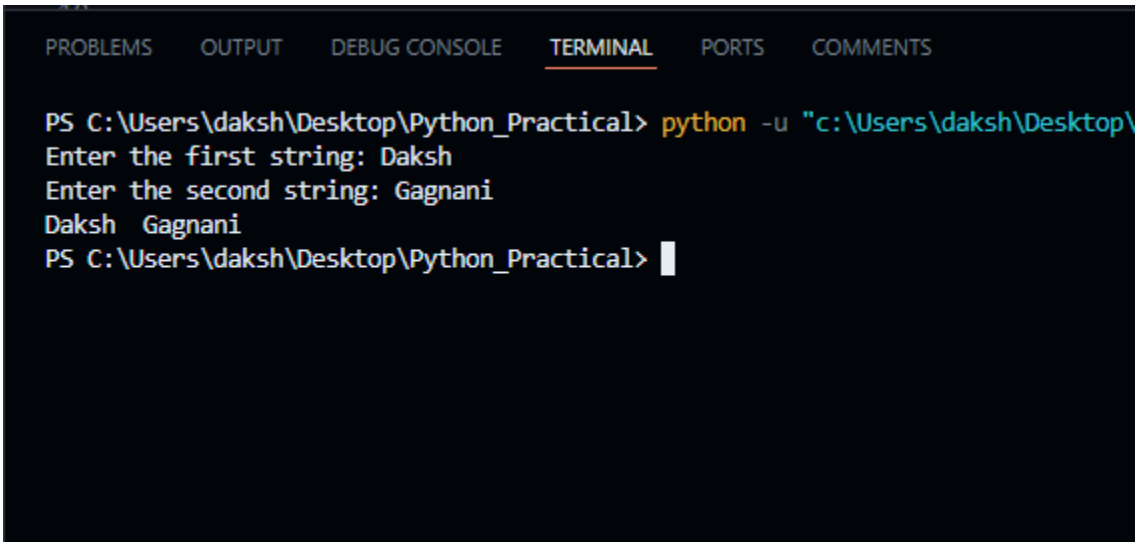
Q3. `String Concatenation`

Code:-

```
def concatenate_strings(str1,str2):
  if  str2 == "":
    return str1
  else:
    return  str1 + " " +  str2

string1 =str(input("Enter the first string: "))
string2 =str(input("Enter the second string: "))
print(concatenate_strings(string1,string2))
```

```
string = "Hello, World!"
print(string[:5])
```

Output:-

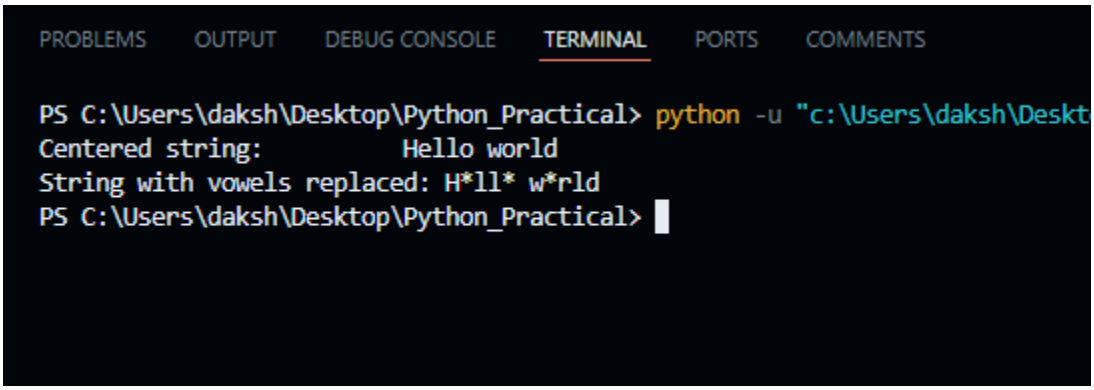


4. String Methods

Code:-

```
def center_string(string):
    return string.center(30)


def replace_vowel(string):
    vowels = "aeiouAEIOU"
    for i in vowels:
        string = string.replace(i, '*')
    return string


string = "Hello world"
print("Centered string:", center_string(string))
print("String with vowels replaced:", replace_vowel(string))
```

Output:-

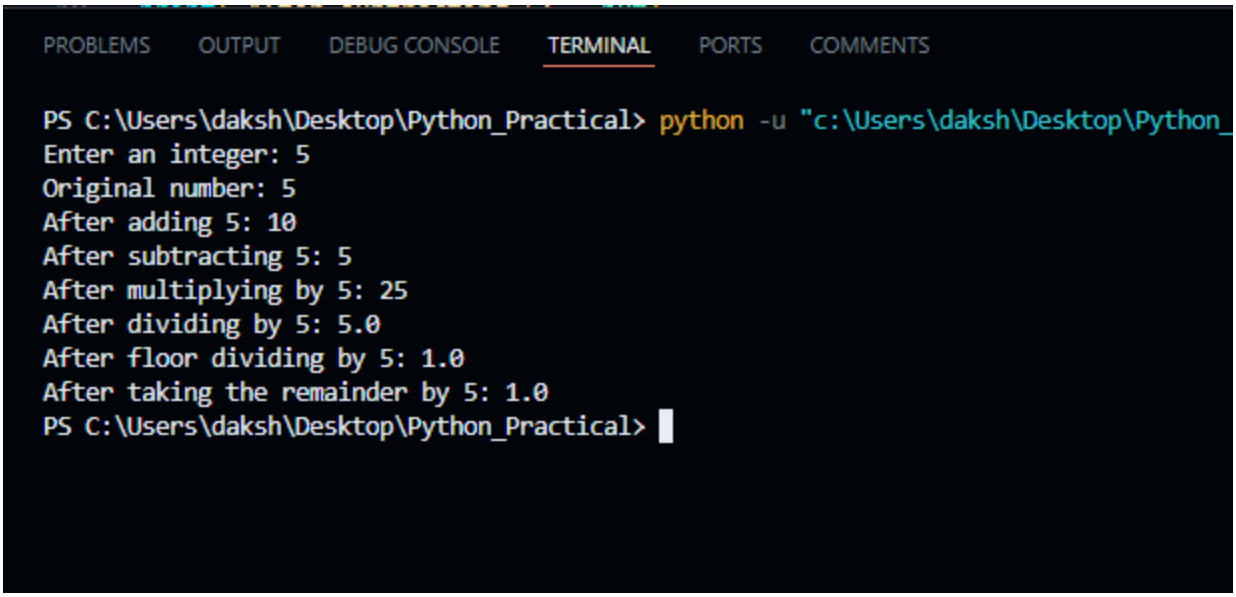


5. Assignment Operators

Code:-

```
num = int(input("Enter an integer: "))

print("Original number:", num)

num += 5

print("After adding 5:", num)

num -= 5

print("After subtracting 5:", num)

num *= 5

print("After multiplying by 5:", num)

num /= 5

print("After dividing by 5:", num)

num //= 5

print("After floor dividing by 5:", num)

num %= 5

print("After taking the remainder by 5:", num)
```

Output:-



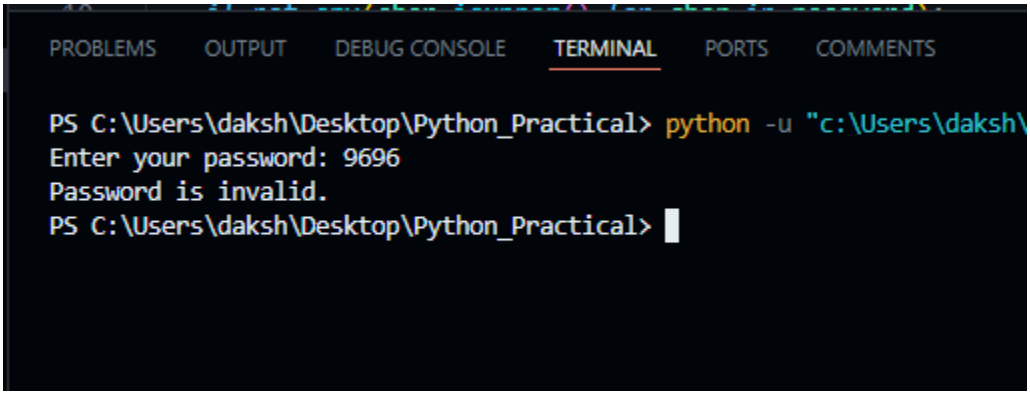
6. Password Validator (Combining Concepts)

Code:-

```
def passwordValidator(password):
    if len(password) < 8:
        return False
    if not any(char.isupper() for char in password):
        return False
    if not any(char.islower() for char in password):
        return False
    if not any(char.isdigit() for char in password):
        return False
    if ' ' in password:
        return False
    return True
```

```
password = input("Enter your password: ")

if passwordValidator(password):
    print("Password is valid.")
else:
    print("Password is invalid.")
```

Output:-

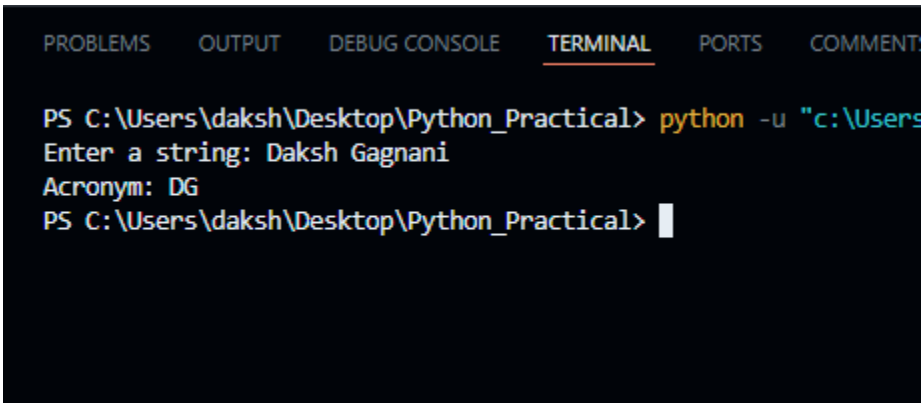


7. Acronym Generator

Code:-

```
string = input("Enter a string: ")
words = string.split()
acronym = ''.join(word[0].upper() for word in words)

print("Acronym:", acronym)
```

Output:-



8. Simple Calculator

Code:-

```
def calculator(num1, num2, operator):
  match operator:
    case '+':
      return num1 + num2
    case '-':
      return num1 - num2
    case '*':
      return num1 * num2
    case '/':
      return num1 / num2
    case '//':
      return num1 // num2
    case '%':
      return num1 % num2
    case '**':
      return num1 ** num2
```

```
        case _:
            return "Invalid operator"


while True:
    user_input = input("Enter '0' to exit or press Enter to continue: ")
    if user_input == '0':
        break

    num1 = float(input("Enter the first number: "))
    num2 = float(input("Enter the second number: "))
    operator = input("Enter an operator (+, -, *, /, //, %, **): ")

    result = calculator(num1, num2, operator)
    print("Result:", result)
```

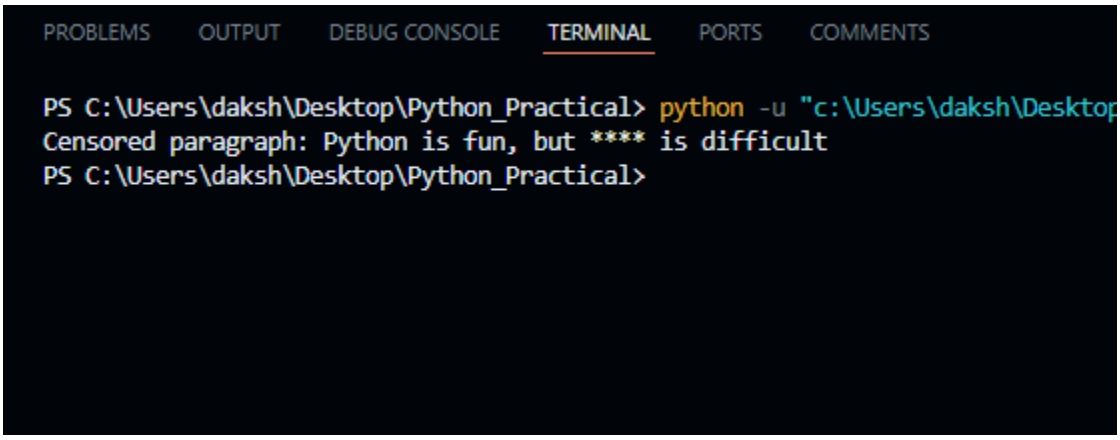
Output:-

9. Word Censorship

Code:-

```
def censor_word(paragraph, banned_word):
    return paragraph.replace(banned_word, "****")

paragraph = "Python is fun, but Java is difficult"
banned_word = "Java"

censored_paragraph = censor_word(paragraph, banned_word)
print("Censored paragraph:", censored_paragraph)
```

Output:-



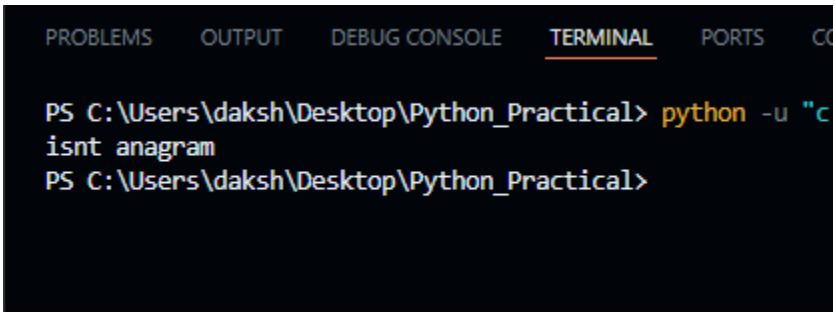
10. Anagram Checker

Code:-

```
def are_anagrams(str1, str2):
    str1 = str1.replace(" ","").lower()
```

```
    str2 = str2.replace(" ","").lower()

    if sorted(str1) == sorted(str2):
        print("is anagram")
    else:
        print("isnt anagram")

str1 = "hi"
str2 = "ii"

are_anagrams(str1,str2)
```

Output:-



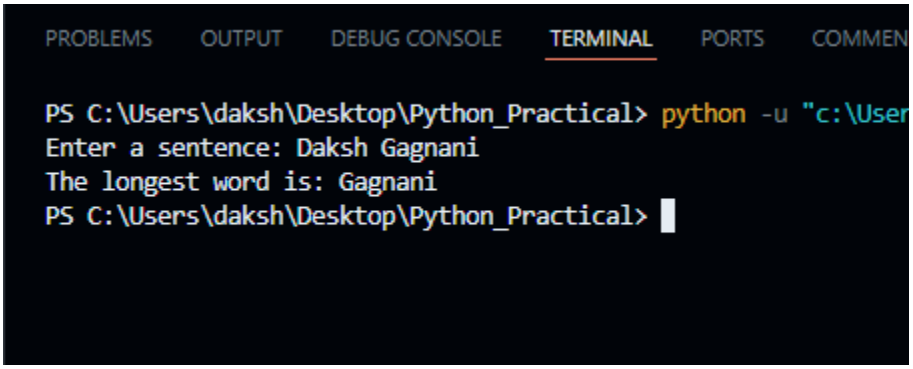
11. Find the Longest Word in a Sentence

Code:-

```
def find_longest_word(sentence):
    words = sentence.split()
    longest_word = max(words, key=len)
```

```
    return longest_word


sentence = input("Enter a sentence: ")
longest_word = find_longest_word(sentence)
print("The longest word is:", longest_word)
```

Output:-

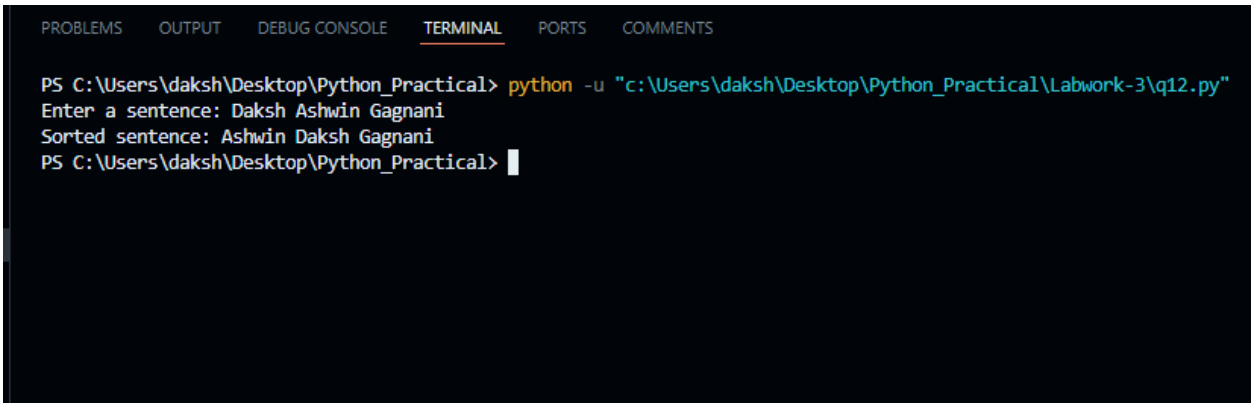


12. Sort Words in a Sentence Alphabetically

Code:-

```
def sort_words(sentence):
    words = sentence.split()
    sorted_words = sorted(words)
    return ' '.join(sorted_words)

# Example usage
sentence = input("Enter a sentence: ")
sorted_sentence = sort_words(sentence)
print("Sorted sentence:", sorted_sentence)
```

Output:-

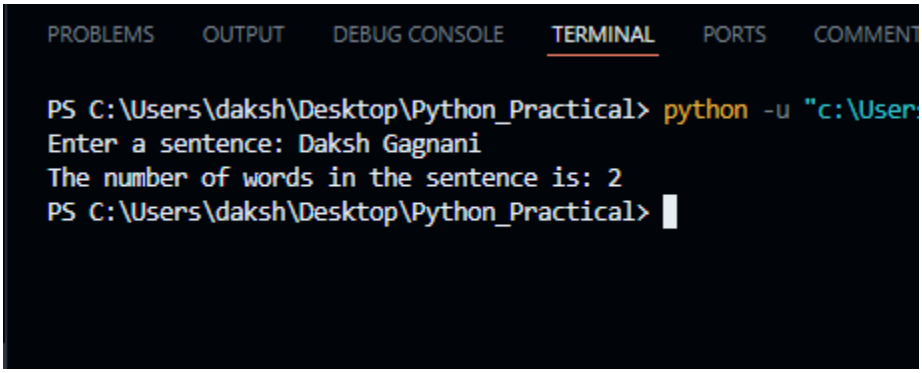


13. Count Words in a Sentence

Code:-

```
def count_words(sentence):
    words = sentence.split()
    return len(words)

sentence = input("Enter a sentence: ")
word_count = count_words(sentence)
print("The number of words in the sentence is:", word_count)
```

Output:-

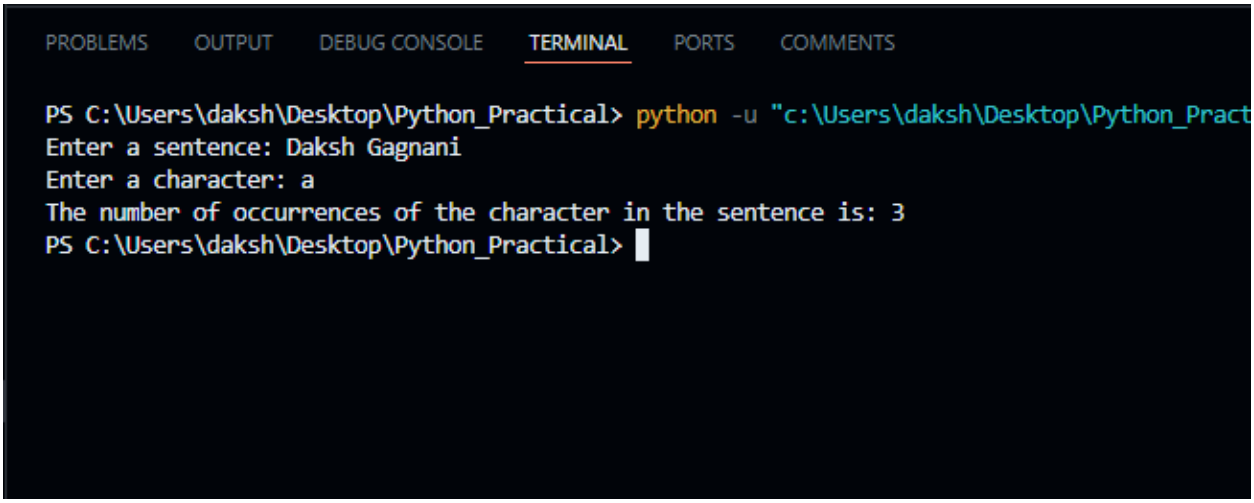


14. Count the Occurrences of a Given Character

Code:-

```
def count_characters(sentence, character):
    return sentence.count(character)


sentence = input("Enter a sentence: ")
character = input("Enter a character: ")
character_count = count_characters(sentence, character)
print("The number of occurrences of the character in the sentence is:", character_count)
```

Output:-



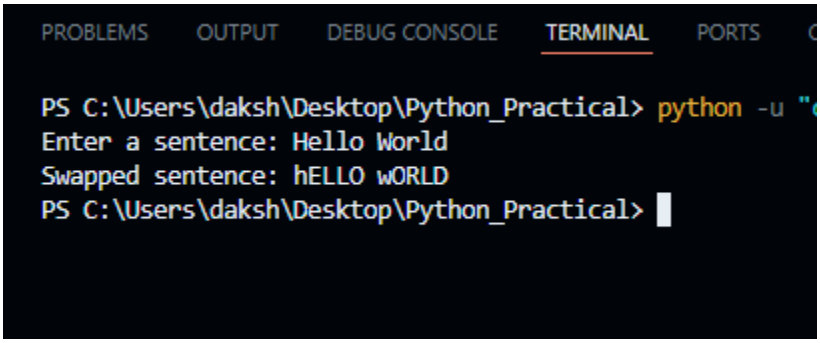
15. Swap Case

Code:-

```
def swap_case(sentence):
    return sentence.swapcase()
```

```
sentence = input("Enter a sentence: ")
swapped_sentence = swap_case(sentence)
print("Swapped sentence:", swapped_sentence)
```

Output:-

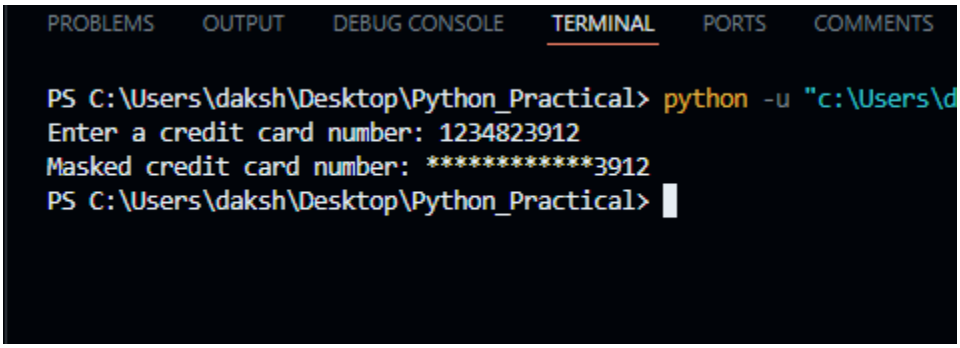


16. Mask Credit Card Number

Code:-

```
def mask_credit_card_number(credit_card_number):
    masked_credit_card_number = '*' * 12 + credit_card_number[-4:]
    return masked_credit_card_number

credit_card_number = input("Enter a credit card number: ")
masked_credit_card_number = mask_credit_card_number(credit_card_number)
print("Masked credit card number:", masked_credit_card_number)
```

Output:-


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
COMMENTS
PS C:\Users\daksh\Desktop\Python_Practical> python -u "c:\Users\d
Enter a credit card number: 1234823912
Masked credit card number: ******3912
PS C:\Users\daksh\Desktop\Python_Practical>