Q1.

Write a program to count word frequencies in a given text.

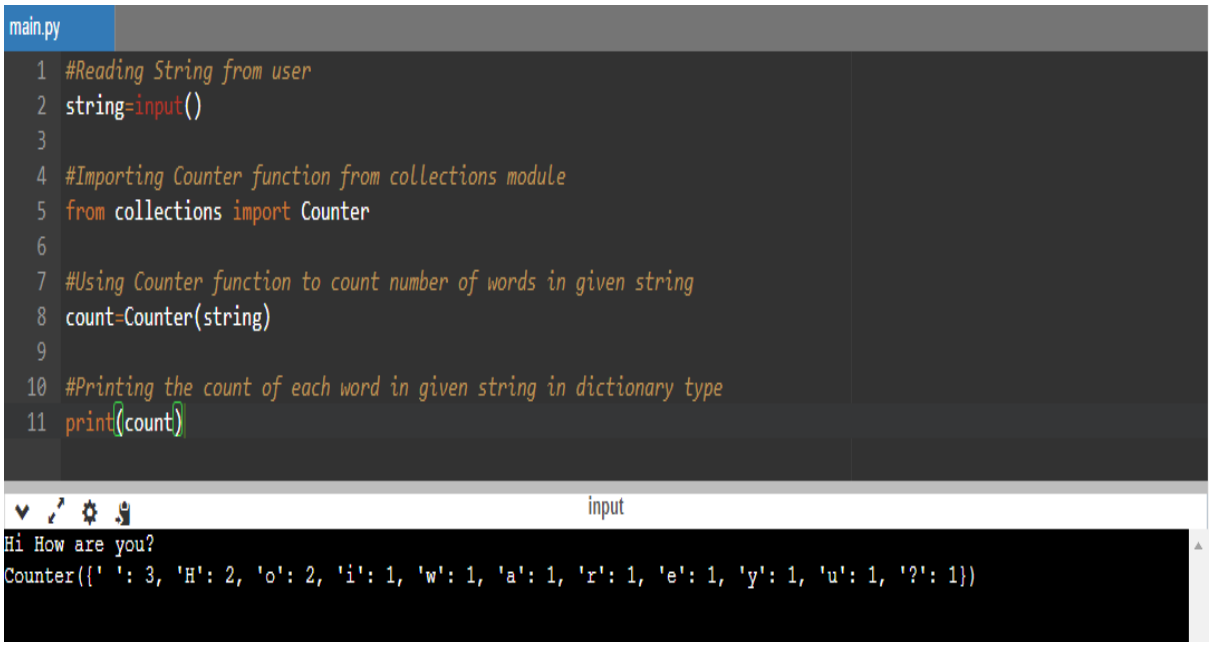
Description:

The below code reads a string input from the user. It then imports the Counter function from the collections module, which is used to count the occurrences of each character in the given string. The code then uses the Counter function to count the number of occurrences of each word in the string. Finally, it prints the count of each word in the string in a dictionary format.

Code:

```
#Reading String from user

string=input()


#Importing Counter function from collections module

from collections import Counter


#Using Counter function to count number of words in given string

count=Counter(string)


#Printing the count of each word in given string in dictionary type

print(count)
```

Output:



Q2.

Write a program that checks if a given word is a palindrome.

Description:

The below code snippet takes input from the user as a string. It then checks whether the given string is a palindrome or not by comparing the string with its reverse (obtained using slicing `string[::-1]`). If the string is the same when read in reverse, it's considered a palindrome and a corresponding message is printed. Otherwise, it's stated that the string is not a palindrome.

Code:

#Reading String from user

string=input()

#checking whether given string is palindorme or not

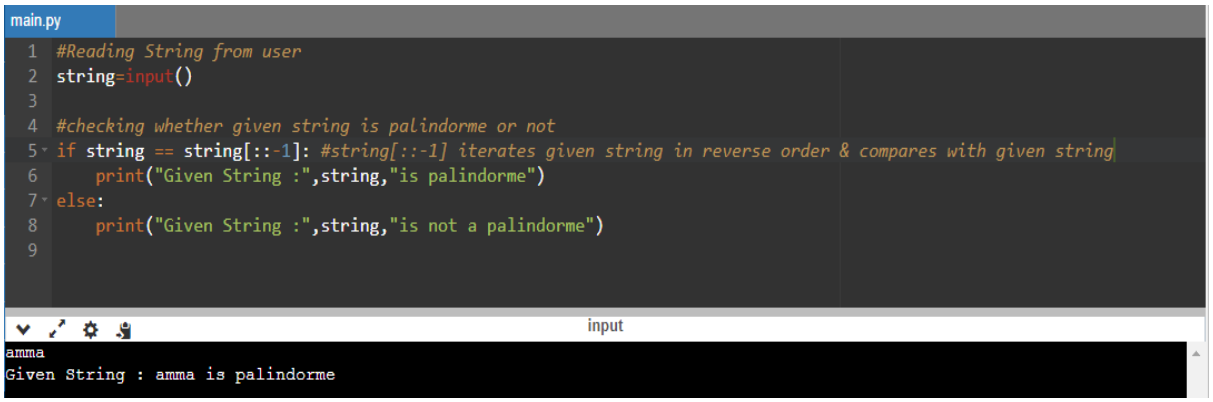
if string == string[::-1]: #string[::-1] iterates given string in reverse order & compares with given string

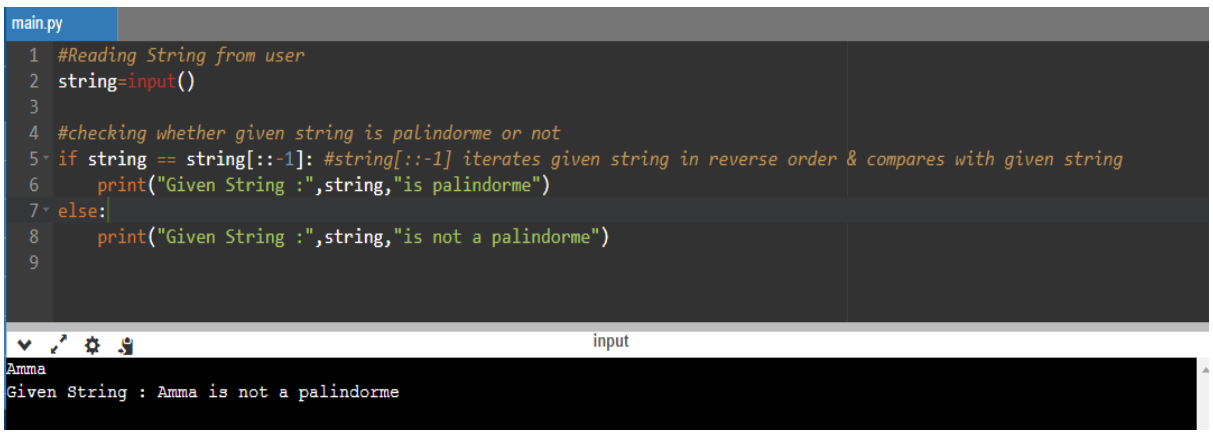
    print("Given String :",string,"is palindorme")

else:

    print("Given String :",string,"is not a palindorme")

Output:





Q3.

List Manipulation:

Create a list of numbers, and then write a program that prints the square of each number in the list

Description:

The below program creates a list of numbers `[1, 2, 3, 4, 5]` and then calculates and prints the square of each number in the list using a `for` loop. It iterates through each number in the list (`num`), calculates its square using the exponentiation operator `**`, and prints the result in the format "number squared is result".

Code:

```
# Create a list of numbers

numbers = [1, 2, 3, 4, 5]


# Print the square of each number in the list

for num in numbers:

    print(num, "squared is", num ** 2)
```

Output: