

G. H. Raisoni College Of Engineering And Management, Wagholi Pune

2021- 2022

Group A :-Assignment no :-6

Department	<u>CE [SUMMER 2022 (Online)]</u>		
Term / Section	<u>III/B</u>	Date Of submission	<u>11-12-2021</u>
Subject Name /Code	<u>Python for Data Science / UCSP204</u>		
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Registration Number	<u>2020AC0E1100107</u>		

Group A: Assignment No 6

► Aim:->

(a) Write a program to count the numbers of characters in the string and store them in a dictionary data structure.

(b) To write a python program to generate all permutations of a given string using list or tuple

► Theory:->

```
def permute (data, i, length):
```

→ The above function is used to find all possible permutations of a string in python

different orders by which elements can be arranged.

• Parameters-

1. Iterable - Here, we have to pass the iterable of whose permutations we want.

Example - list, tuple, string, etc.

2. Size - In this parameter, we have to specify the number of elements in each permutation

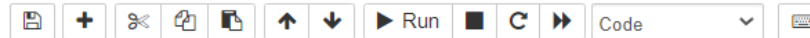
```
Ex. → from itertools import permutations  
a = permutations([1, 2, 3], 2)  
print(i)
```

Output -

(1,2)
(1,3)
(2,1)
(2,3)
(3,1)
(3,2)

► Conclusion:

Hence conclude that using string function, conditional loop, control loop, operators we can perform different operations on given String



```
In [26]: print("*****SCOB77_Pratham pittu_Group A_Assignment_6*****\n")

print("# A) A program to count the numbers of characters in the string and store them in a dictionary data structure")
# A) A program to count the numbers of characters in the string and store them in a dictionary data structure

print("-----")
str=input("Enter string : ")
dic = {}
for i in str:
    if i in dic:
        dic[i] += 1
    else:
        dic[i] = 1
print("-----")
print("Dictionary is:\n",dic)
print("-----\n\n")

# B) Program to generate all permutations of a given string using list or tuple30
print("# B) Program to generate all permutations of a given string using list or tuple30")
def permute(data, i, length):
    if i==length:
        print(''.join(data) )
    else:
        for j in range(i,length):
            #swap
            data[i], data[j] = data[j], data[i]
            permute(data, i+1, length)
            data[i], data[j] = data[j], data[i]
string =str;
print("*****")
n = len(string)
data = list(string)
print("All permutations of a given string : ")
permute(data, 0, n)
print("*****")

*****SCOB77_Pratham pittu_Group A_Assignment_6*****
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# B) Program to generate all permutations of a given string using list or tuple30
*****
All permutations of a given string :
ram
rma
arm
amr
```

mar

mra
