Sir Syed CASE Institute of Technology

COURSE NAME

OOP

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DEPARTMENT OF Computer Science

SIR SYED CASE INSTITUTE OF TECHNOLOGY, ISLAMABAD

Task 1:

Write afunction to check if a string is empty or not. If not, count the total number of vowels, consonants and blank spaces in a string.

```
def srting(str1):
    vowel= 0
    space=0
    coun = 0
    for i in str1:
        if(i == 'a' or i == 'e' or i == 'i' or i == 'o' or i == 'u'
        or i == 'A' or i == 'E' or i == 'I' or i == 'O' or i == 'U'):
            vowel = vowel + 1
        elif i==" ":
            space=space+1
        else:
            coun = coun + 1
    print(f"Total Number of Vowels in this String = {vowel}")
    print(f"Total Number of Consonants in this String = {coun}")
    print(f"Total Number of Space in this String = {space}")
str1 = input("Please Enter Your String : ")
if len(str1)> 0:
    srting(str1)
else:
    print("Your list is empty")
```

output:

```
Please Enter Your String : Hello brother how are you
Total Number of Vowels in this String = 9
Total Number of Consonants in this String = 12
Total Number of Space in this String = 4
```

Task 2:

Write a method to calculate Fibonacci series up to ‘n’ points. After calculating the series, the method should return it to main function. The Fibonacci sequence is a series of numbers where a number is found by adding up the two numbers before it. Starting with 0 and 1, the sequence goes 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, and so forth.

Code:

```
def Va(n):
    if n==1:
        return 0
    elif n==2:
        return 1
    else:
        return Va(n-1) + Va(n-2)
n=int(input("enter your number :"))
for i in range(1,n):
    c=Va(i)
    print(c)
```

Output:

```
enter your number :6
0
1
1
2
3
```

Task #3:

Write a function that reverses the characters in a string. (It can be considered a string copy, starting from the back end of the first string.)

```
s= input("Please Enter Your String : ")
n=int(len(s))-1
while n>=0:
    print(s[n])
    n=n-1
```

Output:

```
Please Enter Your String : hello
o
l
l
e
h
```

Task 4#:

Write a program that lets the user enter in some English text, then converts the text to Pig-Latin. To review, Pig-Latin takes the first letter of a word, puts it at the end, and appends “ay”. The only exception is if the first letter is a vowel, in whichcase we keep it as it is and append “hay” to the end. E.g.,“hello” -> “ellohay”, and “image” -> “imagehay” Hint:Split the entered string through split() method and then iterate over the resultant list, e.g. “My name is John Smith”.split(“ ”) -> [“My”, “name”, “is”, “John”, “Smith”]

Code:

```
s = input("Please Enter Your String : ")
l1=s.split(" ")
print(l1)
for item in l1:
    i=item[0]
    if(i == 'a' or i == 'e' or i == 'i' or i == 'o' or i == 'u'
        or i == 'A' or i == 'E' or i == 'I' or i == 'O' or i == 'U'):
        A1=item+"hay"
        print(A1)
        print("\n")
    else:
        f=""
        for i1 in item:
            if i1==item[0]:
                pass
            else:
                f=f+i1
        f=f+item[0]+"ay"
        print(f)
        print("\n")
```

Output:

```
Please Enter Your String : ello hamza ali
['ello', 'hamza', 'ali']
ellohay


amzahay


alihay


PS C:\Users\OC>
```

Task #5:

Write a Python script to print a dictionary where the keys are numbers between 1 and 10(both included) and the values are square of keys.Sample Dictionary:{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100}

```
r={}
n=int(input("enter your number :"))
for i in range(1,n+1):
    r[i]=i*i
print(r)
```

OutPut:

```
enter your number :8
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64}
```