

ASSESSMENT : 2
PROBLEM SHEET 3
DATE: - 20/10/2020

ACTIVITY 1:

Program to print all characters in a given string in forward and reverse order.

Program:

```
#to print a string in forward and reverse order.

print("\n\tWELCOME TO THE PROGRAM")
print("WE WILL SHOW YOUR ENTERED STRINGS IN TWO DIFFERENT ORDERS.\n")
a=input("enter a string = ")
b=a[::-1]
print("\nTHE STRING IN FORWARD ORDER :-\n",a)
print("\nTHE STRING IN REVERSE ORDER :-\n",b)
```

Output:

```
[vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code1.py

        WELCOME TO THE PROGRAM
WE WILL SHOW YOUR ENTERED STRINGS IN TWO DIFFERENT ORDERS.

enter a string = hello how are you

THE STRING IN FORWARD ORDER :-
    hello how are you

THE STRING IN REVERSE ORDER :-
    uoy era woh olleh
vumeshkumarraju@Vs-MacBook-Air strings activity % ]
```

ACTIVITY 2:

Program to count the number of vowels in a given string.

Program:

```
#to count the number of vowels in an entered string.

print("\n\tWELCOME")
print("we will count the number of vowels present in the entered string.\n")
string = input("enter a string :- ")
sum=0
counta=0
counte=0
counti=0
counto=0
countu=0
i=0
while i < len(string):
    if string[i]=='a' or string[i]=='A':
        counta+=1
    elif string[i]=='e' or string[i]=='E':
        counte+=1
    elif string[i]=='i' or string[i]=='I':
        counti+=1
    elif string[i]=='o' or string[i]=='O':
        counto+=1
    elif string[i]=='u' or string[i]=='U':
        countu+=1
    i+=1
sum=counta+counte+counti+counto+countu
print("TOTAL NUMBER OF a = ",counta)
print("TOTAL NUMBER OF e = ",counte)
print("TOTAL NUMBER OF i = ",counti)
print("TOTAL NUMBER OF o = ",counto)
print("TOTAL NUMBER OF u = ",countu)
if sum==0:
    print("\nTHERE IS NO VOWEL IN YOUR ENTERED STRING.\n")
else:
    print("\nTHERE ARE ",sum," VOWELS IN THE STRING.\n")
```

Output:

```
[vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code3.py

.....WELCOME.....
we will check your entered string is palindrome or not.

enter the string :- umesh

!!!!your entered string is not palindrome.
the reverse string is :- hsemu
[vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code3.py

.....WELCOME.....
we will check your entered string is palindrome or not.

enter the string :- helloolleh

.....Your entered string is palindrome.....
vumeshkumarraju@Vs-MacBook-Air strings activity %
```

ACTIVITY 3:

Program to check whether the given string is palindrome or not.

Program:

```
#to check weather the string is palindrome or not

print("\n\t.....WELCOME.....")
print("we will check your entered string is palindrome or not.\n")
string=input("enter the string :- ")
rev_string=string[::-1]
if string==rev_string:
    print("\n.....Your entered string is palindrome.....\n")
else:
    print("\n!!!!your entered string is not palindrome.")
    print("the reverse string is :- ",rev_string)
```

Output:

```
[vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code3.py

      .....WELCOME.....
we will check your entered string is palindrome or not.

enter the string :- umesh

!!!!your entered string is not palindrome.
the reverse string is :-  hsemu
[vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code3.py

      .....WELCOME.....
we will check your entered string is palindrome or not.

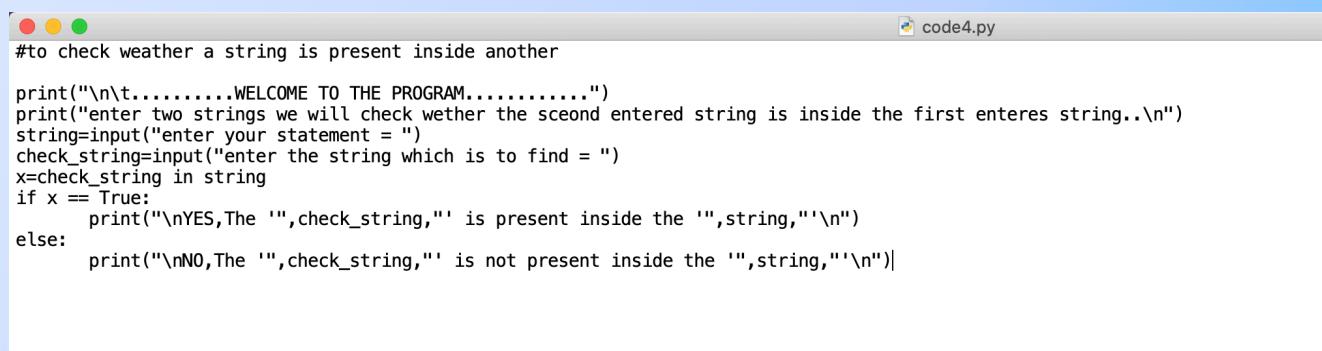
enter the string :- helloolleh

.....Your entered string is palindrome.....
```

ACTIVITY 4:

Program to check whether a given string (say string1) is present or not in another string (say string 2).

Program:



```
#to check weather a string is present inside another
print("\n\t.....WELCOME TO THE PROGRAM.....")
print("enter two strings we will check wether the sceond entered string is inside the first enteres string..\n")
string=input("enter your statement = ")
check_string=input("enter the string which is to find = ")
x=check_string in string
if x == True:
    print("\nYES,The '",check_string,"' is present inside the '",string,"'\n")
else:
    print("\nNO,The '",check_string,"' is not present inside the '",string,"'\n")
```

Output:

```
[vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code4.py
.....WELCOME TO THE PROGRAM.....
enter two strings we will check wether the sceond entered string is inside the first enteres string..
enter your statement = hello , how are you?
enter the string which is to find = are
YES,The ' are ' is present inside the ' hello , how are you? '
[vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code4.py
.....WELCOME TO THE PROGRAM.....
enter two strings we will check wether the sceond entered string is inside the first enteres string..
enter your statement = hello , how are you?
enter the string which is to find = hii
NO,The ' hii ' is not present inside the ' hello , how are you? '
vumeshkumarraju@Vs-MacBook-Air strings activity %
```

ACTIVITY 5:**Program to print the following patterns.**

A	A	A
BB	AB	22
CCC	ABC	CCC
DDDD	ABCD	4444
...	EEEEE
	

Program:

```
#printing the pattern with strings
print("\n\t.....WELCOME TO THE PROGRAM.....")
print("we will show pattern with alphabets from a to the alphabet you have entered")
alp=input("enter an alphabet=")
i=97
x=ord(alp)
while i<=x:
    j=97
    while j<=i:
        print(chr(i),end=" ")
        j+=1
    print("\n")
    i+=1
i=97
while i<=x:
    j=97
    while j<=i:
        print(chr(j),end=" ")
        j+=1
    print("\n")
    i+=1
i=97
while i<=x:
    j=97
    while j<=i:
        if i%2==0:
            print(i-96,end=" ")
        else:
            print(chr(i),end=" ")
        j+=1
    print("\n")
    i+=1
```

OUTPUT:

```
vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code5.py

.....WELCOME TO THE PROGRAM.....
we will show pattern with alphabets from a to the alphabet you have entered
enter an alphabet=i
a

b b

c c c

d d d d

e e e e e

f f f f f f f

g g g g g g g

h h h h h h h h

i i i i i i i i i

a

a b

a b c

a b c d

a b c d e

a b c d e f

a b c d e f g

a b c d e f g h

a b c d e f g h i

a

2 2

c c c

4 4 4 4

e e e e e

6 6 6 6 6 6

g g g g g g g

8 8 8 8 8 8 8 8

i i i i i i i i i

vumeshkumarraju@Vs-MacBook-Air strings activity % █
```

ACTIVITY 6:

Program for simple encoding.

a. Read a sentence (original data) from user.

b. Encode the user input as follows.

i. Replace ‘a’ by ‘5’

ii. Replace ‘b’ by ‘+’

iii. Replace ‘c’ by ‘\$’

c. Print both original data and encoded data in the screen.

PROGRAM:

```
#encoding the data

print("\n\t.....WELCOME TO THE PROGRAM.....")
print("your entered data will be encoded.\n")
data=input("enter the data :- ")
string=data
string=string.replace("a","5")
string=string.replace("b","+")
string=string.replace("c","$")
print("\nTHE ORIGINAL DATA :- ",data)
print("THE ENCODED DATA :- ",string,"\\n")
```

OUTPUT:

```
[vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code6.py

.....WELCOME TO THE PROGRAM.....
your entered data will be encoded.

enter the data :- banana

THE ORIGINAL DATA :- banana
THE ENCODED DATA :- +5n5n5

vumeshkumarraju@Vs-MacBook-Air strings activity % ]
```

ACTIVITY 7

Read input string from user and convert into title case.

PROGRAM:

```
#converting to title case

print("\n\t<<<....WELCOME TO THE PROGRAM....>>>")
print("converting your entered string into title mode.\n")
string=input("enter the string :- ")
print("showing you the entered string in title mode ",end=":- ")
print(string.title())
```

OUTPUT:

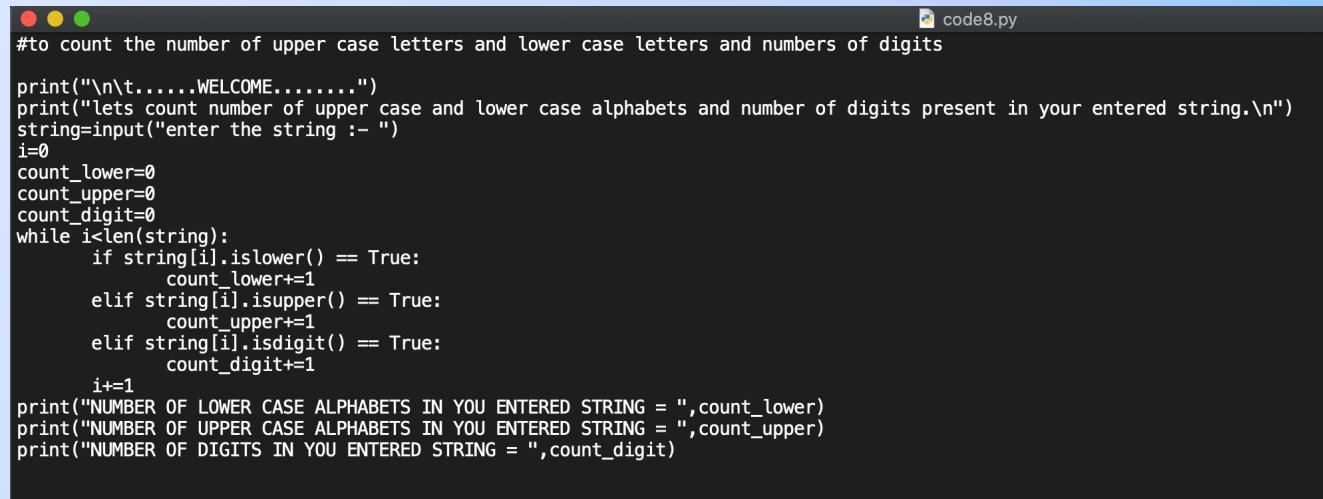
```
vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code7.py
[
    <<<....WELCOME TO THE PROGRAM....>>>
converting your entered string into title mode.

enter the string :- welcome to program
showing you the entered string in title mode :- Welcome To Program
vumeshkumarraju@Vs-MacBook-Air strings activity %
```

ACTIVITY 8

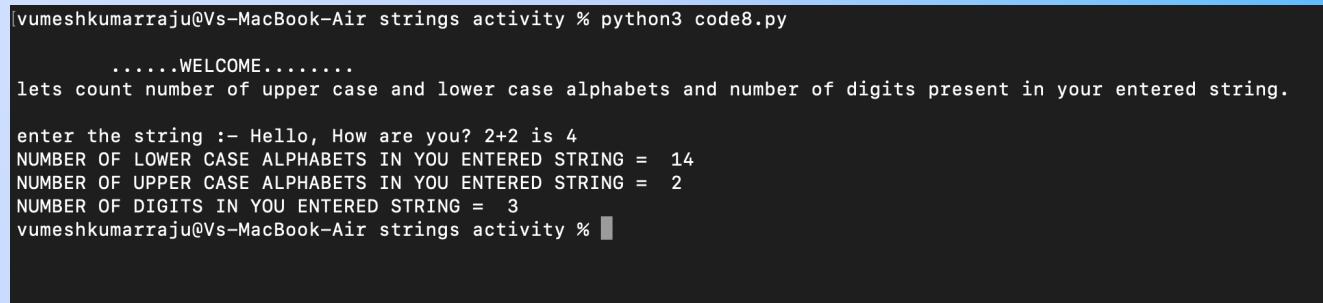
Write a program to count the number of upper case letters (A, B,...Z), lower case letters (a, b,z) and numeric digits (0,1...9) in a given input string. Exclude special characters including ‘white space’.

PROGRAM:



```
#to count the number of upper case letters and lower case letters and numbers of digits
print("\n\t.....WELCOME.....")
print("lets count number of upper case and lower case alphabets and number of digits present in your entered string.\n")
string=input("enter the string :- ")
i=0
count_lower=0
count_upper=0
count_digit=0
while i<len(string):
    if string[i].islower() == True:
        count_lower+=1
    elif string[i].isupper() == True:
        count_upper+=1
    elif string[i].isdigit() == True:
        count_digit+=1
    i+=1
print("NUMBER OF LOWER CASE ALPHABETS IN YOU ENTERED STRING = ",count_lower)
print("NUMBER OF UPPER CASE ALPHABETS IN YOU ENTERED STRING = ",count_upper)
print("NUMBER OF DIGITS IN YOU ENTERED STRING = ",count_digit)
```

OUTPUT:



```
[vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code8.py
.....WELCOME.....
lets count number of upper case and lower case alphabets and number of digits present in your entered string.

enter the string :- Hello, How are you? 2+2 is 4
NUMBER OF LOWER CASE ALPHABETS IN YOU ENTERED STRING = 14
NUMBER OF UPPER CASE ALPHABETS IN YOU ENTERED STRING = 2
NUMBER OF DIGITS IN YOU ENTERED STRING = 3
vumeshkumarraju@Vs-MacBook-Air strings activity % ]
```

ACTIVITY 9

Write a program to count the number of occurrences of a given word (user input) in a given sentence (user input).

PROGRAM:

```
#printing the entered string has occurred how many times
print("\n\t.....WELOCOME TO THE PROGRAM.....")
print("you enter two strings we will check how many times the second string has been occurred in the first entered string.\n")
string=input("enter the string :- ")
count_string=input("enter the string to be count :- ")
print("THERE ARE ",string.count(count_string),"\"",count_string,"\"",",are present in \"",string,"\".\n")
```

OUTPUT:

```
[vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code9.py
.....WELOCOME TO THE PROGRAM.....
you enter two strings we will check how many times the second string has been occurred in the first entered string.

enter the string :- he did it at first so he easily secured the first prize.
enter the string to be count :- first
THERE ARE 2 ' first ' are present in ' he did it at first so he easily secured the first prize. '.

vumeshkumarraju@Vs-MacBook-Air strings activity % ]
```

ACTIVITY 10

Write a program to count all characters except numeric digits (0-9) and alphabets (both a-z and A-Z).

PROGRAM:

```
# to count all the characters except digits and alphabets
print("\n\t.....WELCOME.....")
print("lets count number of special characters except the alphabets and digits.\n")
string=input("enter the string :- ")
count=0
i=0
while i<len(string):
    if (ord(string[i])>=32 and ord(string[i])<=47)or (ord(string[i])>=58 and ord(string[i])<=63):
        count+=1
    i+=1
print("THERE ARE ",count," SPECIAL DIGITS PRESENT IN YOUR ENTERES STRING EXCEPT ALPHABETS AND DIGITS.")
```

OUTPUT:

```
[vumeshkumarraju@Vs-MacBook-Air strings activity % python3 code10.py
.....WELCOME.....
lets count number of special characters except the alphabets and digits.

enter the string :- HII,Do you know the equation?equation=a+b*c=d
THERE ARE 10 SPECIAL DIGITS PRESENT IN YOUR ENTERES STRING EXCEPT ALPHABETS AND DIGITS.

vumeshkumarraju@Vs-MacBook-Air strings activity % ]
```