PYTHON:

1) Write a program that uses a function to print all the prime numbers up to given number, where number is passed as parameter to the function.

Input:

```
# PYTHON program to display all the prime numbers within an interval
def prime(lower,upper):
    print("Prime numbers between",lower,"and",upper,"are:")
    for num in range(lower,upper+1):
        if num>1:
            for i in range(2,num):
                if (num%i)==0:
                    break
            else:
                print(num)

lower=int(input("enter the lower number:"))
upper=int(input("enter the upper no:"))
prime(lower,upper)
```

Output:

```
enter the lower number:3
enter the upper no:19
Prime numbers between 3 and 19 are:
3
```

2) Write a program that uses a function to find total number of positive negative and zeros in tuple.

Input:

```
def find():
    tuple=eval(input("enter a tuple:"))
    neg=0
    pos=0
    null=0
    for i in tuple:
        if i>0:
            pos+=1
        elif i<0:
            neg+=1
        else:
            null+=0
    print("total number of postive numbers are:",pos)
    print("total number of negative numbers are:",neg)
    print("total number of zeroes are:",null)
find()
```

Output:

```
enter a tuple:(2,3,4,5,6,-8,-1,-23,0,0,0,0
```

3) Write a program that uses a function to create a dictionary with student name as key and aggregate marks as the value and search any student and print aggregate marks.

Input:

```
di={}
def create():
    while True:
        s=input("enter the student's name:")
        m=float(input("enter the marks:"))
        di[s]=m
        ch=input("Do you want to enter more records:type Y for yes and N for no")
        if ch=='N':
            break
def find():
    create()
    print(di)
    name=input("enter the student's name to find the record:")
    print("marks of the student",name,"is",di[name])
find()
```

Output:

```
enter the student's name:maya
enter the marks:67.5
Do you want to enter more records:type Y for yes and N for noY
enter the student's name:nishchay
enter the marks:77
Do you want to enter more records:type Y for yes and N for noy
enter the student's name:dominic
```

4) Write a program that uses a function to find se
largest element in a list.

Input:

```
def no():
    l=eval(input("enter a list:"))
    max=l[0]
    second=0
    index=0
    i=1
    while i<len(l):
        if l[i]>max:
            max=l[i]
            index=i
        i+=1
    second=l[0]
    j=1
    while j<len(l):
        if j==index:
            j+=1
        elif l[j]>second:
            second=l[j]
        j+=1
    print(second)
no()
```

Output:

```
enter a list:3,4,5,6,7,8,9,1
8
```

5) Write a program to check a number is Armstrong number or not using function.

Input:

```
def armstrong():
    num=int(input("enter a number:"))
    sum=0
    temp=num
    while temp!=0:
        dig=temp%10
        temp=temp//10
        sum+=dig*dig*dig
    if sum==num:
        print("it is an armstrong number")
    else:
        print("it is not an armstrong number")
armstrong()
```

Output:

```
enter a number:143
it is not an armstrong number

enter a number:153
it is an armstrong number
```

6) Write a program to print n terms of a Fibonacci series using function.

Input:

```
def fibonnaci(n):
    a=0
    b=1
    print(a)
    print(b)
    for i in range(2,n):
        c=a+b
        print(c)
        a=b
        b=c
num=int(input("enter the n:"))
fibonnaci(num)
```

Output:

```
enter the n:6
0
1
1
2
3
5
```

7) Write a program that uses a function to find number of odd and even numbers in a tuple.

Input:

```
def oddeven():
    even=0
    odd=0
    tup=eval(input("enter the tuple:"))
    for i in tup:
        if i%2==0:
            even+=1
        else:
            odd+=1
    print("the number of even numbers is:",even)
    print("the number of odd numbers is:",odd)
oddeven()
```

Output:

```
enter the tuple:1,2,3,4,5,6,7,
the number of even numbers is: 3
the number of odd numbers is: 4
```

8) Write a python program using function to test if a string is palindrome or not where string is passed as parameter to the function.

Input:

```
def palindrome(string):
    if (string==string[::1]):
        print("the string is a palindrome")
    else:
        print("not a palindrome")
str=input("enter a string:")
palindrome(str)
```

Output:

```
enter the tuple:1,2,3,4,5,6,7,
the number of even numbers is: 3
the number of odd numbers is: 4
```

9) Write a program using function to store and print all positive numbers first then negative numbers then zeros of a list.

Input:

```
def list(list1):
    p=[]
    n=[]
    zero=[]
    for i in list1:
        if i>0:
            p.append(i)
        elif i<0:
            n.append(i)
        elif i==0:
            zero.append(i)
    print("the positive numbers of the list are:",p)
    print("the negative numbers of the list are:",n)
    print("the zeroes of the list are:",zero)
a=eval(input("enter the list"))
list(a)
```

Output:

```
enter the list[1,2,3,4,5,6,0,-2,-3,-98,-78]
the positive numbers of the list are: [1, 2, 3, 4, 5, 6]
the negative numbers of the list are: [-2, -3, -98, -78]
the zeroes of the list are: [0]
```

10) Write a program that uses a function to count number of words in a string.

Input:

```
def count():
    str = input("enter a string:")
    count=0
    for i in str:
        count+=1
        c=count
    print(c)
count()
```

Output:

```
enter a string:python programming
18
```

11) Write a program to write and read employee information such as name, salary and department in employee.csv file.

Input:

```
import csv
def addrecords(name,salary,department):
    f=open("employee.csv", "a", newline='')
    filewriter = csv.writer(f)
    filewriter.writerow([name,salary,department])
    f.close()

def display():
    f1 = open("employee.csv", "r", newline='')
    filereader = csv.reader(f1)
    for row in filereader:
        print(row[0],row[1], row[2])
    f1.close()

addrecords("Maya", "10000", "sales")
addrecords("Ramesh", "50000","finance")
display()
```

```
def write():
    import pickle
    f=open("employee.dat","ab+")
    record=[]
    while True:
        empid=int(input("enter the employee id"))
        name=input("enter the name")
        dept=input("enter the department")
        salary=float(input("enter the salary"))
        temp=[empid,name,dept,salary]
        record.append(temp)
        print("record added")
        ch=input("Do you want to enter more records? Y/N")
        if ch in "nN":
            break
    pickle.dump(record,f)
    f.close
def read():
    print("The records are:")
    print("EMPLOYEE ID","NAME","DEPARTMENT","SALARY")
    import pickle
    f=open("employee.dat","rb")
    try:
        while True:
            s=pickle.load(f)
            c=len(s)
            for i in s:
                for j in i:
                    print(j,end=" | ")
                print()
    except:
        f.close()
```

```
def searchid():
    import pickle
    f=open("employee.dat","rb+")
    s=[]
    try:
        while True:
            s=s+pickle.load(f)
    except:
        f.close()
    id=int(input("enter the employee id you want to search"))
    for i in s:
        if i[0]==id:
            print("record found and the details are:")
            print(i)

            break
    else:
        print("The given id doesn't match")

while True:
    print("To enter the records press W")
    print("To read  the records press R")
    print("To search the records by id press S")
    ch=input("enter your response")
    if ch in "wW":
        write()
    elif ch in "rR":
        read()
    elif ch in "Ss":
        searchid()
```

Output:

```
To enter the records press W
To read  the records press R
To search the records by id press S
enter your responser
The records are:
EMPLOYEE ID NAME DEPARTMENT SALARY
1 | ram | A | 10000.0 |
2 | mohan | B | 15000.0 |
3 | geeta | C | 20000.0 |
To enter the records press W
To read  the records press R
To search the records by id press S
enter your responses
enter the employee id you want to search3
record found and the details are:
[3, 'geeta', 'C', 20000.0]
```

13) Write a program to update the name of student by using its roll number in a binary file.

Input:

```
import pickle
def updaterecord():                    #this function updates the existing records
    f=open("student.dat","rb+")
    s=pickle.load(f)
    print("the current records are")
    for i in s:
        for j in i:
            print(j,end="|")
        print()
    found=0
    rollno=int(input("enter the roll number"))
    try:
        for i in s:
            if i[0]==rollno:
                found=1
                print("name",i[1])
                ch=input("Do you want to change the name?(Y/n)")
                if ch in "yY":
                    i[1]=str(input("enter the name of the student"))
                    print("updation is done")
    except:

            print("record not found")

    f.seek(0)
    pickle.dump(s,f)
    f.close()
```

14) Write a program to delete a record from binary file.

Input:

```
### import pickle
data = []
try:
    with open("employees.dat", "rb") as f:
        data = pickle.load(f)
except FileNotFoundError:
    with open("employees.dat", "wb") as f:
        pickle.dump(["EMPLOYEES INFORMATION FILE"], f)
print("\nCONTENTS:")
ind = 0
for i in data:
    print(ind, ' || ', i, sep = '')
    ind += 1

ch = int(input("\nTO DELETE: "))
del data[ch]

with open("employees.dat", "wb") as f:
        pickle.dump(data, f)
        print("SAVED")
```

Output:

```
CONTENTS:
0 || EMPLOYEES INFORMATION FILE

TO DELETE: 0
SAVED
```

15) Write a program to write and read student information in student.csv file.

Input:

```
import csv
def addrecords(rollno, name):
    f=open("student1.csv", "a", newline='')
    filewriter = csv.writer(f)
    filewriter.writerow([rollno, name])
    f.close()

def display():
    f1 = open("student1.csv", "r", newline='')
    filereader = csv.reader(f1)
    for row in filereader:
        print(row[0],row[1])
    f1.close()

addrecords(1, "Maya")
addrecords(2, "Ramesh")
display()
```

Output:

```
1 Maya
2 Ramesh
```

16) Write a program to count the number of times the occurrence of "is" word in a text file.

Input:

```
file = open("dell.txt", "r")
data = file.read()
occurence = data.count("is")
print("Number of occurences of the word:", occurence)
```

(dell.txt)

```
1 She is a beautiful girl.
2 She is greedy.
3 She is not worth-trusting.
```

Output:

```
Number of occurences of the word: 3
```

17) Create a binary file with name and roll number of student and display the data by reading the file.

Input:

```
import pickle
stu = {}
stufile = open("stu.dat", "ab")
ans = 'y'
while ans == 'y':
    rno = int(input("Enter roll number:"))
    name = input("Enter the name:")
    marks = float(input("Enter marks:"))
    stu['Rollno']= rno
    stu['Name']=name
    stu['Marks']=marks
    pickle.dump(stu, stufile)
    ans = input("Do you want to enter more records?"
                "ENTER no for not continuing")

    if ans == 'no':
        break

stufile.close()
```

Output:

```
Enter roll number:1
Enter the name:Avni
Enter marks:90
Do you want to enter more records?ENTER no for not continuingno
```

18) Write a program to count total number
a text file.

Input:

```
def county():
    myfile=open("file.txt","r")
    list1=myfile.readlines()
    temp=[]
    rec=[]
    count=list1.count("\n")
    for i in range(0,count):
        list1.remove("\n")
    for i in list1:
        i.strip
        temp=i.split()
        rec=rec+temp
    words=len(rec)
    print("THE TOTAL NUMBER OF WORDS ARE:",words)
    myfile.close()

county()
```

Output:

19) Write a program to count the number of vowels present in a text file.

Input:

```
def county():
    myfile=open("file.txt","r")
    list1=myfile.readlines()
    temp=[]
    rec=[]
    vowel=0
    count=list1.count("\n")
    for i in range(0,count):
        list1.remove("\n")
    for i in list1:
        i.strip
        temp=i.split()
        rec=rec+temp

    for j in rec:
        for k in j:
            if k in "aeiouAEIOU":
                vowel=vowel+1
    print("THE TOTAL NUMBER OF VOWELS ARE:",vowel)

county()
```

Output:

20) Write a program to count and print words having 'y' in a text file story.txt.

Input:

```
fname = input("Enter the file name:")
l = input("Enter the letter to be searched:")
i = 0
with open(fname, "r") as f:
    for line in f:
        words=line.split()
        for j in words:
            for letters in j:
                if(letters == l):
                    print(j)
                    i+=1
print("Total number of occurences are:", i)
```