```
#Recursive function to compute GCD of 2 numbers
def gcd(a,b):
    if(b==0):
        return a
    else:
        return gcd(b,a%b)
a=int(input("Enter first number:"))
b=int(input("Enter second number:"))
GCD=gcd(a,b)
print("GCD is: ")
print(GCD)
```

```
 Enter first number:6
 Enter second number:18
 GCD is:
 6
```

```
#Recursive function to find product of two numbers
def product(a,b):
    if(a<b):
        return product(b,a)
    elif(b!=0):
        return(a+product(a,b-1))
    else:
        return 0
a=int(input("Enter first number: "))
b=int(input("Enter second number: "))
print("Product is: ",product(a,b))
```

```
 Enter first number: 2
 Enter second number: 3
 Product is:  6
```

```
#Recursive function to generate Fibonacci series
def recur_fibo(n):
   if n <= 1:
       return n
   else:
       return(recur_fibo(n-1) + recur_fibo(n-2))

nterms = int(input("number of terms: "))

if nterms <= 0:
   print("Plese enter a positive integer")
else:
   print("Fibonacci sequence:")
   for i in range(nterms):
       print(recur_fibo(i))
```

```
number of terms: 3
Fibonacci sequence:
0
1
1
```

```
#Program to print a specified list after removing the 0th, 4th and 5th elements.
#Sample List : ['Red', 'Green', 'White', 'Black', 'Pink', 'Yellow']
#Expected Output : ['Green', 'White', 'Black']
l=['Red', 'Green', 'White', 'Black', 'Pink', 'Yellow']
l.remove('Red')
l.remove('Pink')
l.remove('Yellow')
print(l)
```

```
['Green', 'White', 'Black']
```

```
#Program to get the difference between the two lists
List1 = ['Red', 'Green', 'White', 'Black', 'Pink', 'Yellow']
List2 = ['Green', 'White', 'Black']
diff= list(set(List1)-set(List2))
print(diff)
```

```
['Red', 'Pink', 'Yellow']
```

```
#Program to find the second smallest number and second largest number in a list
def find_len(list1):
    length=len(list1)
    list1.sort()
    print("2nd largest number: ",list1[length-2])
    print("2nd smallest number: ",list1[1])

list2=list(input()) #input problem
print(list2)
numbers=find_len(list2)
```

```
25
['2', '5']
2nd largest number:  2
2nd smallest number:  5
```

```
#/Program to generate and print a dictionary that contains a number (between 1 and n) in the
a={ 'dict': int(input())}
for i in range(1, a['dict']+1):
    print(i,':',i*i)
```

```
5
1 : 1
2 : 4
```

```
3 : 9
4 : 16
5 : 25
```

```
# Program to remove a key from a dictionary
myDict = {'a':1,'b':2,'c':3,'d':4}
print(myDict)
if 'a' in myDict:
    del myDict['a']
print(myDict)
```

```
{'a': 1, 'b': 2, 'c': 3, 'd': 4}
{'b': 2, 'c': 3, 'd': 4}
```

```
#Program to remove a key from a dictionary
tdict = {
"brand": "Ford",
"model": "Mustang",
"year": 1964
}
x=tdict.keys()
print("Keys of this dictionary are : " , end= "")
print(x)
x=input("Enter key to be removed ")
tdict = {
"brand": "Ford",
"model": "Mustang",
"year": 1964
}
tdict.pop(x)
tdict
```

```
#Create a function which accepts two inputs from the user and compute nCr
import math
a=int(input("Enter N "))
b=int(input("Enter R "))
if a<b :
    print("It's not possible ")
else :
    nf=math.factorial(a)
    rf=math.factorial(b)
    nnf=math.factorial((a-b))
    s=nf/(nnf*rf)
    print(f"nCr is {s}")
```

```
Enter N 5
Enter R 2
nCr is 10.0
```

```
    Program to print a specified list after removing the 0th, 4th and 5th elements
def dele(a) :
    a.pop(0)
    a.pop(3)
    a.pop(3)
    return a
List = ['Red', 'Green', 'White', 'Black', 'Pink', 'Yellow']
a= dele(List)
print(a)

#Given a list of numbers of list, write a Python program to create a list of tuples having fi
a=[1,2,3,4,5,6]
b=[]
for i in range (len(a)) :
    c=[]
    c.append(a[i])
    p=a[i]*a[i]
    c.append(p)
    c=tuple(c)
    b.append(c)
print(b)


#Given list of tuples, remove all the tuples with length K
test = [(4, 5), (4, ), (8, 6, 7), (1, ), (3, 4, 6, 7)]
k=2
l=len(test)
for i in range (l) :
    l=len(test)
    a=test[i]
    tl=len(a)
    if tl==k :
        del test[i]
    if i==0 :
        break



#Program to remove a key from a dictionary
tdict = {
    "brand": "Ford",
    "model": "Mustang",
    "year": 1964
}
x=tdict.keys()
print("Keys of this dictionary are : " , end= "")
print(x)
x=input("Enter key to be removed ")
tdict = {
    "brand": "Ford",
    "model": "Mustang",
    "year": 1964
```

```
}
tdict.pop(x)
tdict


#Program to get the maximum and minimum value in a dictionary
dic={}
n=int(input("Enter number of keys to e entered "))
for i in range (n) :
    k=input("enter key :")
    v=int(input("enter value :"))
    dic.update({k:v})
x= list(dic.values())
x.sort()
print(x[0],x[len(x)-1])


#Program to perform operations on string using unicodes ,splitting of string,accessing elemen
a=input("Enter your string ")
x=a.split()
n=int(input("Enter your index number "))
y=a[n]
print(f"original string is {a}\nsplitted string is {x}\nindex number points to {y}")


#Program for Counting occurrence of a certain element in a string
a=input("Enter your string ")
n=input("Enter element to be counted ")
f=a.count(n)
print(f"{n} is repeated {f} times")
```

+ Code + Text

```
#Program for replacing one substring by another
a=input("Enter your string ")
n=input("Enter substring to be replaced ")
m=input("Enter replacing substring ")
x=a.replace(n,m)
print(f"replaced string is {x}")


#Program to count the number of strings where the string length is 2 or more and the first an
a=list(map(str, input().rstrip().rsplit()))
for i in a :
    s=0
    l=len(i)
if i[0]==i[l-1] and l>2:
    s+=1
print(s)
```

✓ 6s completed at 9:42 PM