***Swapping number:***

a=int(input("enter number:"))

b=int(input("enter number:"))

print(f"before swap",a,b)

a,b=b,a

print(f"after swap",a,b)

***Output:***

***enter number:45***

***enter number:55***

***before swap 45 55***

***after swap 55 45***

***Prime Number:***

n=int(input("enter number:"))

count=0

i=1

while(i<=n):

    if(n%i==0):

        count=count+1

    i=i+1

if(count==2):

    print(n,"is prime number")

else:

    print(n,"is composite number")

***Output:***

***enter number:17***

***17 is prime number***

***enter number:45***

***45 is composite number***

***Factorial of 6***

i=int(input("enter number:"))

fac=1

while i>0:

    fac=fac\*i

    i=i-1

print("Factorial=",fac)

***Output:***

***enter number:6***

***Factorial= 720***

***Maximum number in Array:***

arr=[45,56,78,21,49,87,68]

print("max number=",max(arr))

print("min number=",min(arr))

***Output:***

***max number= 87***

***min number= 21***

arr=[45,56,78,21,49,87,68]

max=arr[0]

n=len(arr)

for i in range(1,n):

    if arr[i]>max:

        max=arr[i]

print("maximum value=",max)

***Output:***

***maximum value= 87***

***Minimum number in array:***

arr=[45,56,78,21,49,87,68]

min=arr[0]

n=len(arr)

for i in range(1,n):

    if arr[i]<min:

        min=arr[i]

print("miniimum value=",min)

***Output:***

***miniimum value= 21***

***Fibonacci series:***

n=int(input("enter number:"))

x=0

y=1

z=0

while(z<=n):

    print(z)

    x=y

    y=z

    z=x+y

***Output:***

***enter number:10***

***0***

***1***

***1***

***2***

***3***

***5***

***8***

***Sum of elrments in array:***

arr=[10,20,30,40]

print(sum(arr))

***Output;***

***100***

***Sum of list:***

a=[]

size=int(input("how many elements you want to enter:"))

for i in range(size):

    val=int(input("enter number:"))

    a.append(val)

sum=0

for i in range(size):

    sum=sum+a[i]

print("sum of elements=",sum)

***Output:***

***enter number:10***

***enter number:20***

***enter number:30***

***enter number:40***

***enter number:50***

***sum of elements= 150***

***Length of list:***

a=["savan",25,45,"pavan",78.4]

print("Length of the list=",len(a))

***Output:***

***Length of the list= 5***

***Swapping first and last elements in list:***

list=[22,44,55.66,99]

print("list before swapping",list)

size=len(list)

temp=list[0]

list[0]=list[size-1]

list[size-1]=temp

print("list after swapping",list)

***Output:***

***list before swapping [22, 44, 55.66, 99]***

***list after swapping [99, 44, 55.66, 22]***

***Swapping any element:***

list=[10,20,45,85,90]

print("before swap",list)

pos1,pos2=1,3

list[pos1],list[pos2]=list[pos2],list[pos1]

print("after swaapping",list)

***Output:***

***before swap [10, 20, 45, 85, 90]***

***after swaapping [10, 85, 45, 20, 90]***

***Removing n^th occurance in word list:***

list=["bat","cricket","stump","cricket","ball","cricket","helmet"]

word="cricket"

n=3

count=0

for i in range(0,len(list)-1):

    if(list[i]==word):

        count=count+1

        if(count==n):

            list.pop(i)

print("updated list:",list)

***Output:***

***updated list: ['bat', 'cricket', 'stump', 'cricket', 'ball', 'helmet']***

***Search element in list:***

n=int(input("enter size="))

a=[]

for i in range(n):

    val=int(input("enter number="))

    a.append(val)

b=int(input("enter number to search="))

flag=0

for i in range(n):

    if(a[i]==b):

        flag=1

        pos=i+1

        break

if(flag==1):

    print("element found",pos,"position")

else:

    print("element not found")

***Output:***

***enter size=5***

***enter number=45***

***enter number=74***

***enter number=12***

***enter number=32***

***enter number=56***

***enter number to search=74***

***element found 2 position***

***Clear list:***

list=[45,55,65,85]

print("before clear",list)

list.clear()

print("after clear",list)

***Output:***

***before clear [45, 55, 65, 85]***

***after clear []***

***Reverse list:***

list=[10,25,45,85,95]

print("before reverse",list,)

list.reverse()

print("list after reverse",list)

***Output:***

***before reverse [10, 25, 45, 85, 95]***

***list after reverse [95, 85, 45, 25, 10]***

list=[10,25,45,85,95]

print("before reverse",list,)

list2=list[::-1]

print("list after reverse",list2)

***Output:***

***before reverse [10, 25, 45, 85, 95]***

***list after reverse [95, 85, 45, 25, 10]***

***Clone or copy list:***

list=[4,45,8,74,56]

list\_copy=list[:]

print("copy list=",list\_copy)

***Output:***

***copy list= [4, 45, 8, 74, 56]***

***\*\*Here we can use extend , list and copy method\*\****

***Count occurance of an elemrnt in a list***

list=[45,10,23,55,45,87,45,62]

a=45

count=0

for ele in list:

    if(ele==a):

        count=count+1

print("{} has occured {} times".format(a,count))

***Output:***

***45 has occured 3 times***

***Multiplcation ofelement in the list:***

list=[1,2,3,4,5]

result=1

for i in list:

    result=result\*i

print("Multiplication=",result)

***Output:***

***Multiplication= 120***

***Smallest and Largest number of list:***

list=[10,5,80,70,50]

list.sort()

print(list)

print("smallest element =",list[0])

print("largest element =",list[-1])

***Output:***

***[5, 10, 50, 70, 80]***

***smallest element = 5***

***largest element = 80***

***Second largest element:***

list=[10,5,80,70,50]

list.sort()

print(list)

print("second largest element=",list[-2])

***Output:***

***[5, 10, 50, 70, 80]***

***second largest element= 70***

***Palidrome:***

a=input("enter a string:")

print(a[:])

revstr=(a[::-1])

if revstr==a:

    print(a," is Palindrome")

else:

    print(a,"is not palindrome")

***Output:***

***enter a string:wow***

***wow***

***wow is Palindrome***

***enter a string:welcome***

***welcome***

***welcome is not palindrome***

***Reverse word in string:***

str="Welcome to India"

word=str.split(" ")

print("Original str",word)

word=word[-1::-1]

print("reverse",word)

outputstr=' '.join(word)

print("reverse str:",outputstr)

***Output:***

***Original str ['Welcome', 'to', 'India']***

***reverse ['India', 'to', 'Welcome']***

***reverse str: India to Welcome***

***Find Substring in string:***

str="Welcome to India"

sub\_str="India"

print(str.find(sub\_str))

***Output:***

***11***

***Find length of string:***

str="Welcome to India"

counter=0

for i in str:

    counter=counter+1

print("length of str=",counter)

***Output:***

***length of str= 16***

***Check if the string contains any special character:***

import re

str="welcome@#\*to%@!India#$%"

regex=re.compile('[!@#$%^&\*()~]')

if(regex.search(str)==None):

    print("No special character present in a string")

else:

    print("Special character present in string")

***Output:***

***Special character present in string***

***URL in string:***

import re

str="Im photographer at https://www.pixpa.com/examples/photography"

url=re.findall('http[s]?://(?:[a-zA-Z]|[0-9]|[$-\_@.&+]|[!\*\(\),]|(?:%[0-9a-fA-F][0-9a-fA-F]))+',str)

print("url is:",url)

***Output:***

***url is: ['https://www.pixpa.com/examples/photography']***