**CO2:1**

n=int(input("Enter the number:"))

f=1

for i in range(1,n+1):

f=f\*i

print("factorial of",n,"=",f)

**OUTPUT:**

Enter the number:5

factorial of 5 = 120

**CO2:3**

list=[20,30,40,50,60]

total=sum(list)

print("Sum of list","=",total)

**OUTPUT:**

**Sum of list = 200**

**CO2:5**

rows=int(input("Enter the no:of rows:"))

for i in range(1,rows+1):

for j in range(1,i+1):

print(i\*j,end=" ")

print()

**OUTPUT:**

**Enter the no:of rows:3**

**1**

**2 4**

**3 6 9**

Enter the no:of rows:6

1

2 4

3 6 9

4 8 12 16

5 10 15 20 25

6 12 18 24 30 36

**C02:7**

str=input("Enter the string");

print("inputed string is:",str)

if(str.endswith("ing")):

str=str+'ly'

else:

str=str+'ing'

print("the formated string is:",str)

**OUTPUT:**

Enter the stringharsha

inputed string is: harsha

the formated string is: harshaing

Enter the stringrunning

inputed string is: running

the formated string is: runningly

**C02:2**

**n=int(input("Enter the limit:"))**

**a=0**

**b=1**

**sum=0**

**count=1**

**print("Fibonacci series:",end=" ")**

**while(count<=n):**

**print(sum,end=" " )**

**count+=1**

**a=b**

**b=sum**

**sum=a+b**

**OUTPUT:**

**Enter the limit:5**

**Fibonacci series: 0 1 1 2 3**

**C02:8**

**a=[]**

**n= int(input("Enter the number of elements in list:"))**

**for x in range(0,n):**

**element=input("Enter element "+ str(x+1))**

**a.append(element)**

**max1=len(a[0])**

**temp=a[0]**

**for i in a:**

**if(len(i)>max1):**

**max1=len(i)**

**temp=i**

**print("Longest Word:",temp)**

**print("Length of longest word :",max1)**

**OUTPUT:**

Enter the number of elements in list:2

Enter element 1PYTHON

Enter element 2PROGRAMMING

Longest Word: PROGRAMMING

Length of longest word : 11

**CO2:10**

def factors(x):

print("The factors of",x,"are:")

for i in range(1, x + 1):

if x % i == 0: print(i)

n=int(input("Enter a number:"))

factors(n)

**OUTPUT:**

Enter a number:15

The factors of 15 are:

1

3

5

15

**CO2\_4**:

from math import sqrt as s

for i in range(1000,10000):

if s(i)==int(s(i)) and i%2==0:

if s(i)==int(s(i)) and i%2==0:

print(i,end=" ")

**OUTPUT:**

1024 1156 1296 1444 1600 1764 1936 2116 2304 2500 2704 2916 3136 3364 3600 3844 4096 4356 4624 4900 5184 5476 5776 6084 6400 6724 7056 7396 7744 8100 8464 8836 9216 9604

**CO2:9**

n=int(input("Enter the limit:"))

for i in range(n):

for j in range(i):

print("\*",end=" ")

print()

for i in range(n,0,-1):

for j in range(i):

print('\* ', end="")

print(" ")

**OUTPUT:**

Enter the limit:4

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \*

\* \*

\*

**CO2:6**

test\_str=str(input("Enter the string:"))

freq={}

for i in test\_str:

if i in freq:

freq[i]+=1

else:

freq[i]=1

print("Count of all characters:"+str(freq))

**OUTPUT:**

**Enter the string:datastructure**

**Count of all characters:{'d': 1, 'a': 2, 't': 3, 's': 1, 'r': 2, 'u': 2, 'c': 1, 'e': 1}**

**CO2:11**

import math

t\_area = lambda b,h :1/2\*b\*h

r\_area = lambda l,b:l\*b

s\_area = lambda a : a\*a

print("Area of Triangle :", t\_area(10,20))

print("Area of Rectangle:", r\_area(30,20))

print("Area of Square :", s\_area(15))

**OUTPUT:**

Area of Triangle : 100.0

Area of Rectangle: 600

Area of Square : 225