**Co2\_1**

Program to find the factorial of a number

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 number7

factorial of 7 = 5040

**Co2\_2**

Generate Fibonacci series of N terms

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

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 number6

fibonacci series 0 1 1 2 3 5

**Co2\_3**

Find the sum of all items in a list

list1 = [10, 15, 20, 25, 30]

total = sum(list1)

**OUTPUT**

Sum of list : 100

**Co2\_4**

Generate a list of four digit numbers in a given range with all their digits even and the number is a perfect square.

from math import sqrt as s

for i in range(1000,10000):

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\_5**

Display the given pyramid with step number accepted from user.

rows = int(input("Enter the number of rows: "))

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

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

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

print()

**OUTPUT**

Enter the number of rows: 4

1

2 4

3 6 9

4 8 12 16

**Co2\_7**

Add ‘ing’ at the end of a given string. If it already ends with ‘ing’, then add ‘ly’

str=input("enter a string")

print("print the string:",str)

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

str=str+'ly'

else:

str=str+'ing'

print("print new string",str)

**OUTPUT**

enter a stringplay

print the string: play

print new string playing

enter a stringcoming

print the string: coming

print new string comingly

**Co2\_8**

Accept a list of words and return length of longest word.

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 1fantastic

Enter element 2performance

Longest Word: performance

Length of longest word : 11

**Co2\_9**

Construct following pattern using nested loop

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:3

\*

\*\*

\*\*\*

\*\*

\*

**Co2\_10**

Generate all factors of a number. def print\_factors(x):

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:4

The factors of 4 are:

1

2

4

**Co2\_11**

Write lambda functions to find area of square, rectangle and triangle.

import math

trianglearea=lambda b,h:1/2\*b\*h

rectarea=lambda l,b:l\*b

sqaurearea=lambda a:a\*a

print("area of triangle=",trianglearea(10,25))

print("area of rectangle=",rectarea(35,45))

print("area of square=",sqaurearea(18))

**OUTPUT**

area of triangle= 125.0

area of rectangle= 1575

area of square= 324