

## 1. Write a Python Program to Display Fibonacci Sequence Using Recursion?``````

```
In [15]: 1 def fib(n):
2         if n<0:
3             print('enter positive value')
4         elif n<=1:
5             return(n)
6         else:
7             return(fib(n-1)+fib(n-2))
8 x=int(input('enter no.of term'))
9 for i in range(x):
10     print(fib(i))
```

enter no.of term 10

0  
1  
1  
2  
3  
5  
8  
13  
21  
34

## 2. Write a Python Program to Find Factorial of Number Using Recursion?

```
In [3]: 1 def fact(n):
2         if n==1:
3             return n
4         else:
5             return(fact(n-1)*n)
6 x=int(input('enter number'))
7 if x<0:
8     print('enter positive number')
9 elif x==0:
10    print('factorial of 0 is 1')
11 else:
12    print(f'factorial of {x} is {fact(x)} ')
```

enter number 5

factorial of 5 is 120

## 3. Write a Python Program to calculate your Body Mass Index?

```
In [8]: 1 def bmi(h,w):
2         z=(w/h**2)*703
3         return z
4 height=float(input('enter height in inch '))
5 weight=float(input('enter weight in lbs '))
6 print(''BMI = [Weight (lbs) / Height (inches)2] x 703'')
7 print(f'the body mass index is : {bmi(height,weight)}')
8
```

```
enter height in inch 65
enter weight in lbs 150
BMI = [Weight (lbs) / Height (inches)2] x 703
the body mass index is : 24.958579881656807
```

## 4. Write a Python Program to calculate the natural logarithm of any number?

```
In [12]: 1 import math as m
2 n=float(input('enter number to check log: '))
3 ln=m.log(n)
4 print(f'the natural log of {n} is : {ln}')
```

```
enter number to check log: 2
the natural log of 2.0 is : 0.6931471805599453
```

## 5. Write a Python Program for cube sum of first n natural numbers?

```
In [24]: 1 def cubic(n):
2         sum=0
3         for i in range(n+1):
4
5             sum=sum+(i**3)
6         return sum
7 n=int(input(''how many first natural number's sum of cube you want to print \n''))
8 print(f'the sum of cube first {n} natural number is : {cubic(n)}')
9
10
```

```
how many first natural number's sum of cube you want to print
10
the sum of cube first 10 natural number is : 3025
```

```
In [ ]: 1
```

```
In [ ]: 1
```