Programming Basic Assignment 6

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

In [23]:

```
#create a function and pass a number
def fibo(n):
#If the number is less than 0 or 0,it return the value itself
    if n<=1:
        return n
#if the number is greater than 0,we are adding the numbers of last 2 digits
    else:
        return (fibo(n-1)+(fibo(n-2)))

# Asking used to pass the n value
n=int(input("Enter a number"))

if n<=0:
    print("Enter a positive number")
# if the number is greater than 0 print all the range of n numbers passed by
else:
    print("Fibonacci Sequence is")
    for i in range(n):
        print(fibo(i))

```

```
Enter a number10
Fibonacci Sequence is
0
1
1
2
3
5
8
13
21
34
```

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

In [37]:
```
#defining a user defined function.
def fact(n):
    if n ==1:
        return 1
# if number is greater than 1, call the UDF(if the passed number say 5 the U
    else:
        return (n * fact(n-1))
n=int(input("Enter a number:"))
if n <= 0:
    print("factorial of number less than 1 does not exists")
else:
    print("The factorial of given number",fact(n))
```

```
Enter a number:6
The factorial of given number 720
```

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

In [38]:
```
height = float(input("Enter your height in Ft: "))
weight = float(input("Enter your weight in Kg: "))
#BMI is weight/(height*height)
print("Your body mass index is: ",(weight / (height * height)))
```

```
Enter your height in Ft: 6
Enter your weight in Kg: 85
Your body mass index is:  2.361111111111111
```

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

In [39]:
```
import math
number = int(input("Enter the number: "))
lg= math.log(number)
print("The value is:",lg)
```

```
Enter the number: 4
The value is: 1.3862943611198906
```

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

In [53]:

```
n=int(input("Enter the number"))
if n <=0:
    print("Enter a posive number:")
for i in range(1,n+1):
    cube=pow(i,3)
    print("The cube of the number",i,"is",cube)
```

```
Enter the number0
Enter a posive number
```