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

In [9]:
```
f=[0,1]
def fib(n):

    if n<len(f):
        return f[n]
    else:
        f.append(fib(n-1)+fib(n-2))
        return f[n]
```

In [10]:
```
fib(9)
```

Out[10]: 34

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

In [18]:
```
def factorial(n):
    if n==0:
        return 1
    else:
        return factorial(n-1)*n
```

In [19]:
```
factorial(3)
```

Out[19]: 6

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

In [23]:
```
def bmi():
    weight=int(input("Enter weight in Kg:"))
    height =float(input("Enter height in meters:"))
    bmi=weight/(height**2)
    return bmi
```

In [24]:
```
bmi()
```

```
Enter weight in Kg:70
Enter height in meters:1.8
```

Out[24]:
```
21.604938271604937
```

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

In [25]:
```
def natural_log(n):
    import math
    val=math.log(n)
    return val
```

In [26]:
```
natural_log(1)
```

Out[26]:
```
0.0
```

In [27]:
```
natural_log(10)
```

Out[27]:
```
2.302585092994046
```

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

In [33]:
```
def sum_cube(n):
    s=0
    while n!=1:
        s=s+n**3
        n-=1
        #print(s)
    return s
```

In [34]:
```
sum_cube(3)
```

Out[34]: 35