Recursion

Recursion is the process of defining something in terms of itself.
In Python, a function can call other functions.
It is even possible for the function to call itself.
These type of construct are termed as recursive functions.

Consider below application which demonstrate concept of Recursion

```
print("---- Marvellous Infosystems by Piyush Khairnar-----")

print("Demonstration of Scope of Recursion")

import sys

print("Maximum number of recursive call are {} in python".format(sys.getrecursionlimit()))

# Changing recursion limit
sys.setrecursionlimit(1500)

print("Maximum number of recursive call are {} in python".format(sys.getrecursionlimit()))

# Recursive function which goes into infinite recursive calls
def fun():
    print("Inside fun")
    fun()

i = 1

# Recursive function which performs recursive calls 10 times
def gun():
    global i
    if(i<=10):
        print(i)
        i+=1
        gun()

gun()

def fact(no):
    if(no == 0):
        return 1
    return no * fact(no-1)

value = 5
ret = fact(value)
print("Factorial of {} is {}".format(value,ret))
```

Output of Above application

```
Today — -bash — 79×24
MacBook-Pro-de-MARVELLOUS:Today marvellous$ python Recursion.py
---- Marvellous Infosystems by Piyush Khairnar-----
Demonstration of Scope of Recursion
Maximum number of recursive call are 1000 in python
Maximum number of recursive call are 1500 in python
1
2
3
4
5
6
7
8
9
10
Factorial of 5 is 120
MacBook-Pro-de-MARVELLOUS:Today marvellous$
```