Tail Recursion

⇒ A recursive function is called Tail Recursive if the function does not do any thing after the last recursive call.

```
def fun(n):
    if (n<=0):
        return
    print(n, end=" ")
    fun(n-1)
```

Tail Recursive

```
def fun(n):
    if (n<=0):
        return
    fun(n-1)
    print(n, end=" ")
```

```
def fun(n):
    if (n==0):
        return 1
    return n*fact(n-1)
```

Non Tail Recursive

```
def fun(n):
    if (n==0):
        return
    print(n)
    fun(n-1)
```

Removing Recursion ⇒

```
def fun(n):
    while (n!=0):
        print(n)
        n = n-1
```

1) Replace if with while
2) Change values of parameters at the end of the loop

Example of Tail recursive functions
- Quick Sort
- Postorder Tree Traversal