

what is a Recursion function?

A recursion function is a function that calls itself to solve a smaller part of the problem.

every recursive function must have:

1. Base case - stops the recursion
2. Recursive case - function calls itself

Example:-

1. factorial using Recursion.

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

2. fibonacci using Recursion

```
def fib(n):
    if n <= 1:
        return n
    return fib(n-1) + fib(n-2)
```

nested function:-

It is a function defined inside another function

Syntax:-

```
def outer_fun(p1, p2, ..., pn):
    def inner_fun(p1, p2, ..., pn):
        return statements
    return inner_fun()
```

Print (outer_fun())