

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())
```