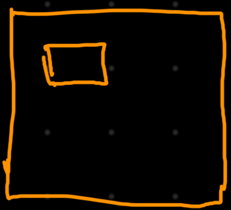
Recursion

Concepts of functions → we can ofcourse call different fn from inside a function

Can a function call itself as well ? Yes



⇒ stack overflow

with this exercise 2 things are clear :-

1. Functions wait in the memory till they are resolved

2. when a fn finishes execution, then only it comes of program and gets deleted from our stack.

Recursion is a function calling itself.

print num() → print numfour()

print num() → print num()

'Recursion is when solution of a problem depends on some smaller problem'

5 → 4 → 3 → 2 → 1

Factorial of a number :-

$$\rightarrow fact(n) = n! = n * \underbrace{(n-1) * (n-2) \cdots 1}_{\downarrow}$$

$$\boxed{n! = n * (n-1)!}$$

$$fact(n) = n * fact(n-1)$$

$$fact(n-1) = (n-1) * (n-2) \cdots 1$$

$$= (n-1) * (n-2)!$$

recursion was giving us maximum depth exceeded.

we have to make sure that recursion stops somewhere and don't keep on going till ∞

→ we add a base case

Now, we will not be making these f^n calls and everything and even think of recursion this deep.

PMI