

#Day1 - Learn With Telusko Sir

Recursion & Memoization

→ Recursion

When you call a function, inside the same function is known as Recursion.

```
fact (int n)
{
```

```
    fact (int n)
```

```
}
```

→ factorial

$$5! = 5 \times 4 \times 3 \times 2 \times 1 \\ \Rightarrow 120$$

$$6! = 6 \times 5 \times 4 \times 3 \times 2 \times 1 \\ \Rightarrow 720$$

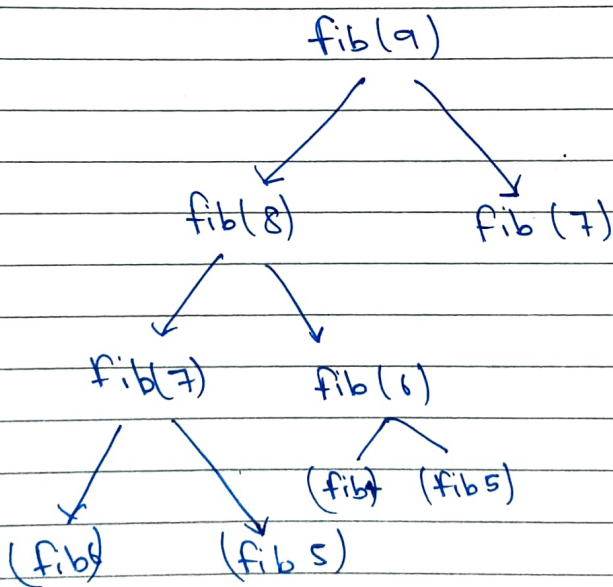
→ a mathematical operation that you write like this:  $n!$

it represent the multiplication of all number b/w 1 and n.

→ fibonacci

a series of number in which each number is the sum of the two preceding numbers

0 1 1 2 3 5 8 13 21 39 ....



flow diagram for program

## → Dynamic programming

you can take a big problem & break-down into small part, which is overlapping. So basically one sub-program can be used for multiple stuff.

So you can use dynamic programming concept there.

## → Map

- it's like a dictionary, in python.

- we store value in key-value format.

```
private static Map<Integer, Integer>
```

```
cache = new HashMap<>();
```