

FEB 21

Recurssion :-

Find n^{th} Fibon acci number

0st 1st 2nd 3rd 4th 5th 6th
0, 1, 1, 2, 3, 5, 8, ...

How to find whether the problem can be solved using recurssion.

→ If smaller version of the problem exists

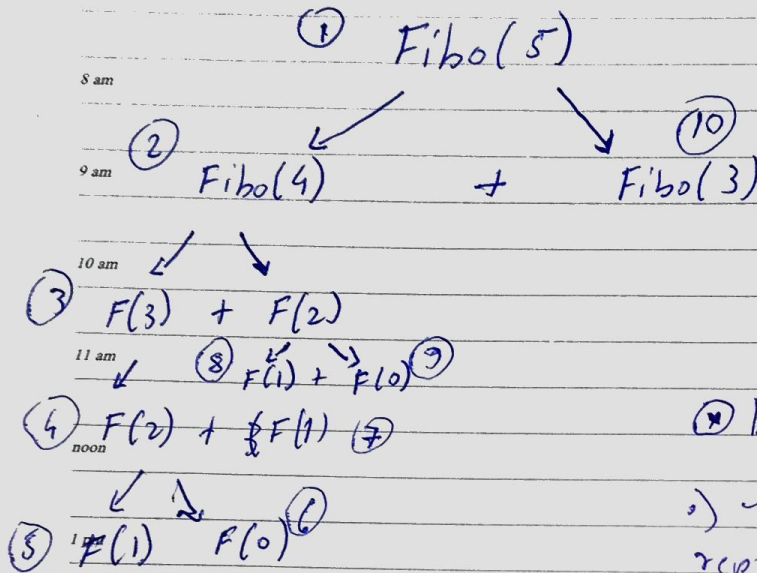
Therefore,

$$\text{Fibo}(N) = \text{Fibo}(N-1) + \text{Fibo}(N-2)$$

$$\hookrightarrow \text{Fibo}(N-1) = \text{Fibo}(N-2) + \text{Fibo}(N-3)$$

Recurssion in a formula is called recurrence relation

Recursion Tree:-



✳ Break it down to small prob

*) The Base condition is represented by answer we already have.

Steps to approach a problem:-

① Identify if you can break any problem to smaller problem

② Write the recurrence relation if needed

③ Draw the recursive tree

Above the tree :- \rightarrow see the flow of functions, and how

FEB' 21

They are stored in stack

→ Identify your left tree calls and right tree calls

→ See how values are returned at each step, see

where two function call will come out. In the end you will come up with solution

There are 3 types of variable in recursion

int fib (int n) ?

if (n < 2)
 return n;

return (fibo (n - 2) + fibo (n - 1));

var which is returned