

TOH

02 February 2022
15:22

$n=1$



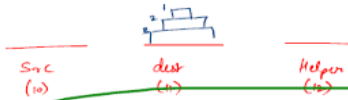
$\Rightarrow 1 [10 \rightarrow 11]$

$n=2$



\Rightarrow
1 $[10 \rightarrow 12]$
2 $[10 \rightarrow 11]$
1 $[12 \rightarrow 11]$

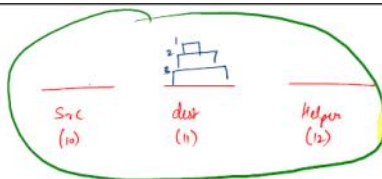
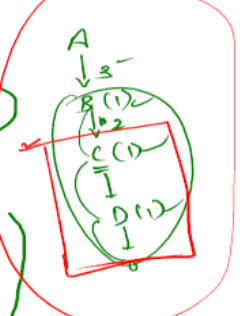
$n=3$



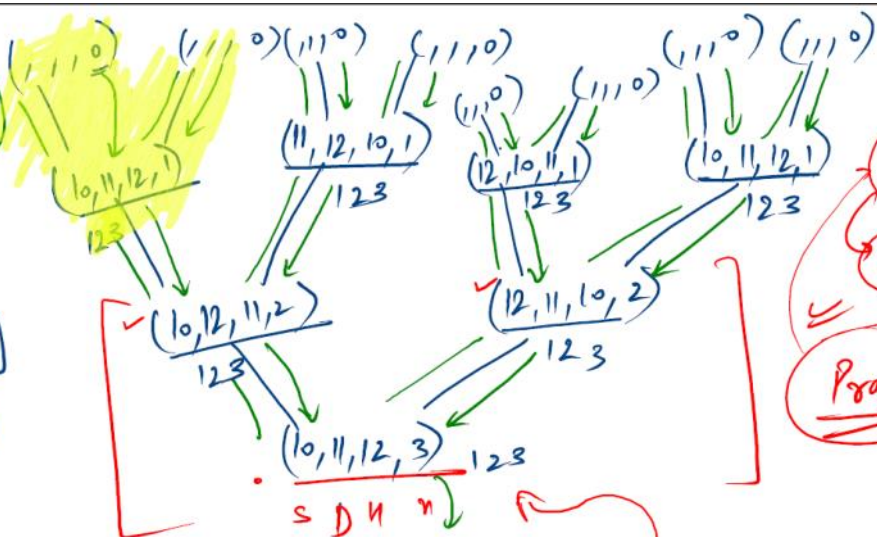
Hmari expectation hai ki 3 disc ko move krne ke steps print ho jaaye
Hum faith rkhte hai ki 2 disc ko move krne ke steps hmara code jaanta hai
To iss hisab se 3 disc ko move krne ke liye

Hum $n-1$ ki faith rkhte hai jisme src is src and dest is helper kyunki pahle un do disc ko helper pe move krne pdega
Fir hum 3rd disc ko move krne ka step print kr dete hai
Aur fir helper pe rkhi un do disc ko move krne ke liye call lga deta hai jo hume helper se dest pe move krne hai
To isme ab src is helper and dest is dest.

✓ Expectation \Rightarrow ToH (10, 11, 12, 3) \Rightarrow To print valid steps to move all disc from 10 \rightarrow 11.
✓ Faith \Rightarrow ToH (10, 12, 11, 2) \Rightarrow program is capable to printing valid steps to move $n-2$ disc from 10 \rightarrow 12.
 \Rightarrow ToH (12, 11, 10, 1) \Rightarrow " " " " " " " " " " " "



1 $[10 \rightarrow 11]$
2 $[10 \rightarrow 12]$ 2 $[12 \rightarrow 11]$
1 $[11 \rightarrow 12]$ 1 $[10 \rightarrow 11]$
3 $[10 \rightarrow 11]$
1 $[12 \rightarrow 10]$



Recursion
Program
Prochitke

```
public static void toh(int src, int dest, int helper, int n){
    ✓ toh(src, helper, dest, n-1);
    ✓ System.out.println(n + "[" + src + " -> " + dest + "]");
    ✓ toh(helper, dest, src, n-1);
}
```

