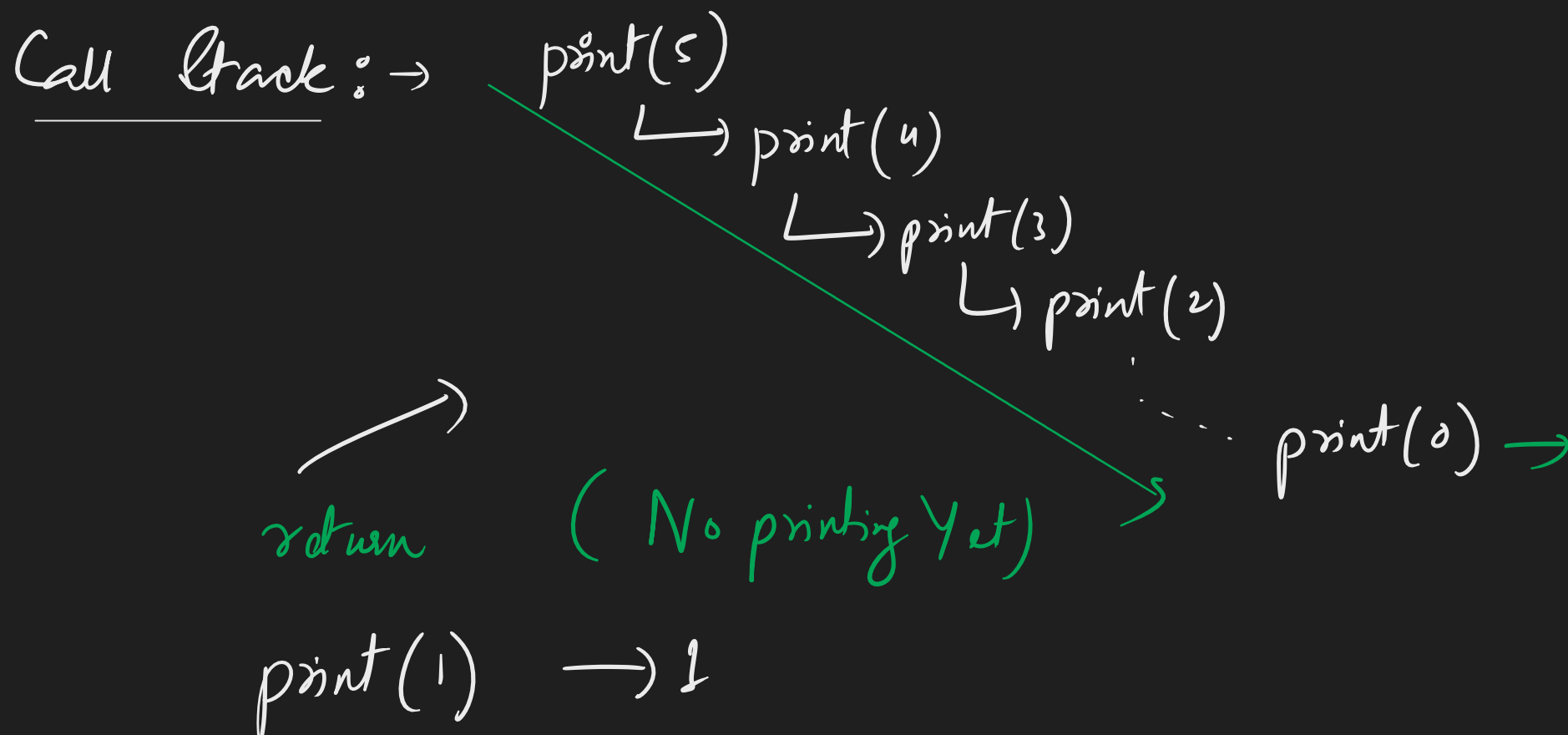


$f(n \rightarrow n-1)$ Recursion \rightarrow

Print numbers 1 to N



Downward Calls :

$5 \rightarrow 4 \rightarrow 3 \rightarrow 2 \rightarrow 1 \rightarrow 0$
 \downarrow
 return

Upward Printing

$1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 5$

Count No of digits in a number \rightarrow

(1234) $\left\{ \begin{array}{l} (n \neq 0) \\ \rightarrow 0 \end{array} \right\}$

$1 + \text{Count}(123)$
 $1 + 1 + \text{Count}(12)$
 $1 + 1 + 1 + \text{Count}(1)$
 $1 + 1 + 1 + 1 + \text{Count}(0)$
 $= (4) \checkmark$

Sum of digits \rightarrow

$\{ 1234 = 1+2+3+4 = 10 \}$

$\{ \text{Print Even Numbers from 2 to } N :$

$N = 10$
 $2, 4, 6, 8, 10 \}$

$\text{void printEven}(\text{int } n) \{$

$\}$

Tower of Hanoi \rightarrow

Src
Rod A

$\{ n=3 \rightarrow 2^3 - 1 = 7 \}$

Aux
Rod B

Dest
Rod C

① Lift only top
 ② No $\{B, S\}$
 ③ No 2 at a time

$\begin{array}{|c|} \hline 1 \\ \hline 2 \\ \hline 3 \\ \hline \end{array}$
 $\begin{array}{|c|} \hline 3 \\ \hline 2 \\ \hline 1 \\ \hline \end{array}$
 $\begin{array}{|c|} \hline \times \\ \hline \times \\ \hline \end{array}$
 $\begin{array}{|c|} \hline 3 \\ \hline 2 \\ \hline 1 \\ \hline \end{array}$

Disc 1 or 3 order
 moves n-1 times

$\begin{array}{|c|} \hline 3 \\ \hline 2 \\ \hline \end{array}$
 $\begin{array}{|c|} \hline 3 \\ \hline 2 \\ \hline \end{array}$

$\begin{array}{|c|} \hline 3 \\ \hline 2 \\ \hline 1 \\ \hline \end{array}$
 $\begin{array}{|c|} \hline 3 \\ \hline 2 \\ \hline 1 \\ \hline \end{array}$

Move $(n-1)$ \rightarrow Move n \rightarrow Move $(n-1)$
 discs discs