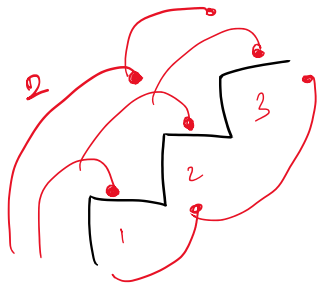


Stairs

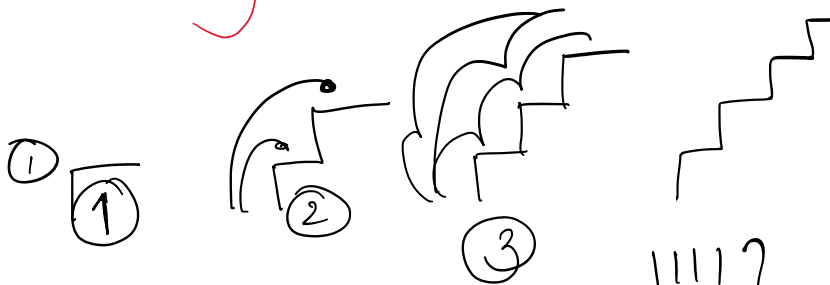


Given n where
 n is the no. of stairs.

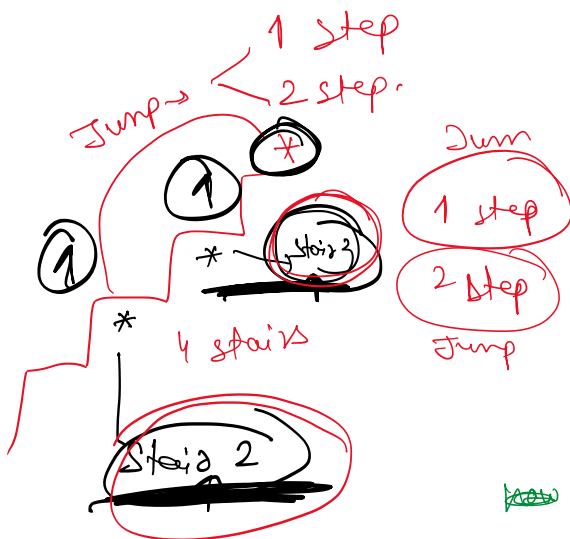
Find ways to climb
 the stairs.

Condition \rightarrow 1 or 2 step
 at time.

$\left. \begin{array}{l} 1 \ 1 \ 1 \\ 2 \ 1 \\ 1 \ 2 \end{array} \right\} 3 \text{ ways.}$



$\left. \begin{array}{l} 1111 \\ 211 \\ 121 \\ 112 \\ 22 \end{array} \right\} 5 \text{ ways.}$

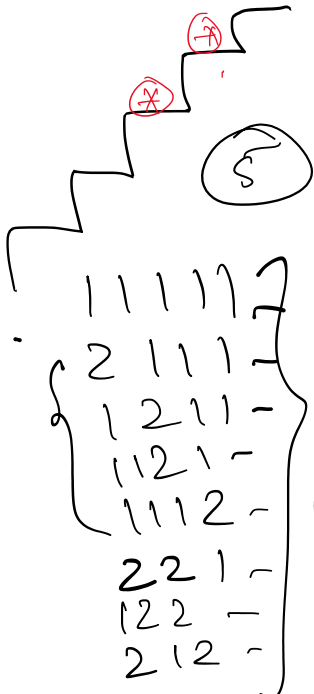
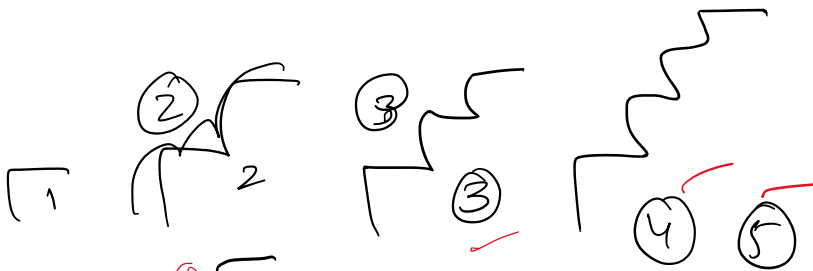
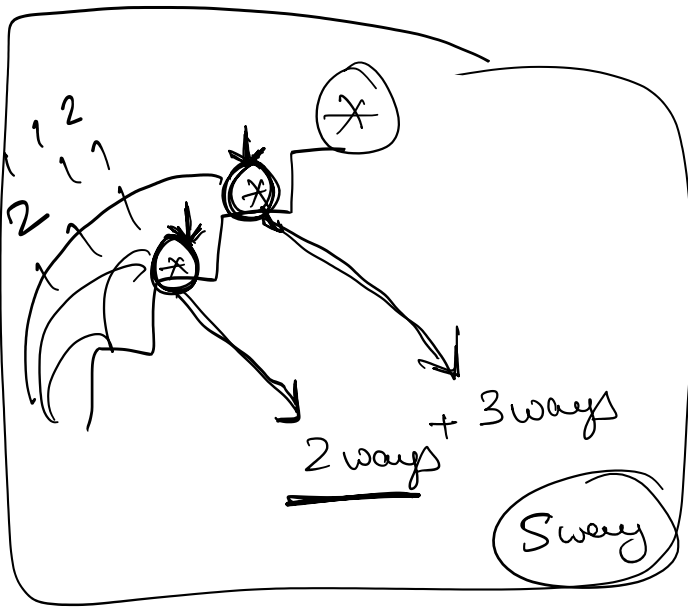


no. of ways to reach
 with $n-1$ =

no. of ways to
 reach $(n-1)$
 position

VI : Stair

+ return
no of ways to
reach (n-2)
position



1 1 1 1
1 2 1
2 1 1
1 1 2
2 2

8

no of way to
reach 3

5 stairs \Rightarrow no. of way to
reach 4th
 $= 3 + 5$
 $= 8$

$$F(n) = F(n-1) + F(n-2)$$

Base condition

$n = 0$

→ return 1