

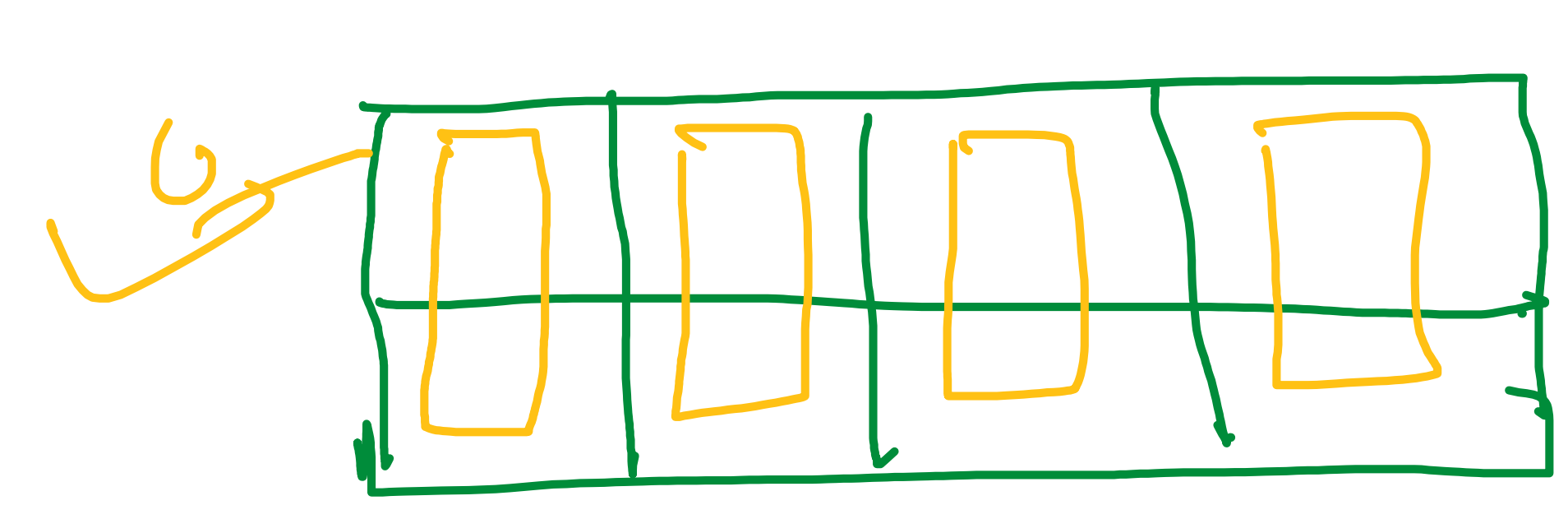
② Tiling Problem:-

① → Given a $2 \times n$ board:-, tile of size 2×1

Q Count no. of ways to tile given board. using 2×1 tile

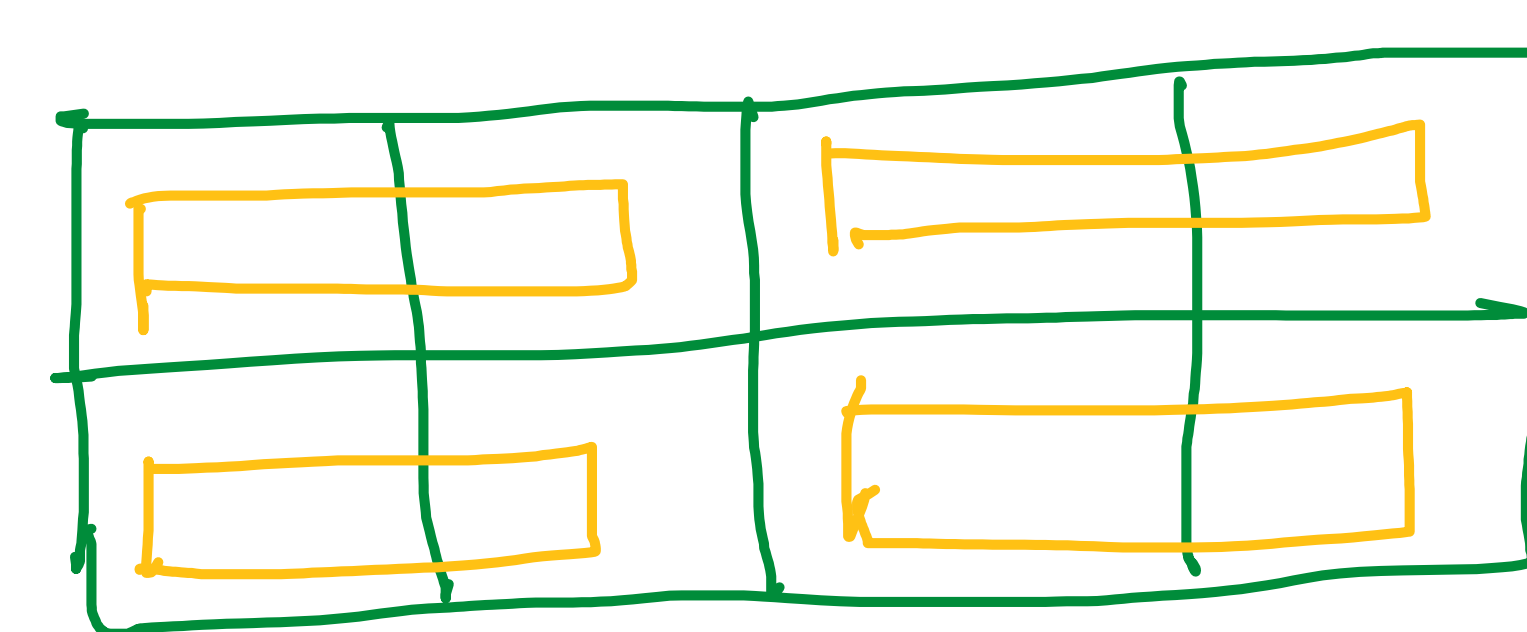
2 Placements:-
→ Horizontal (1×2)
→ Vertical (2×1)

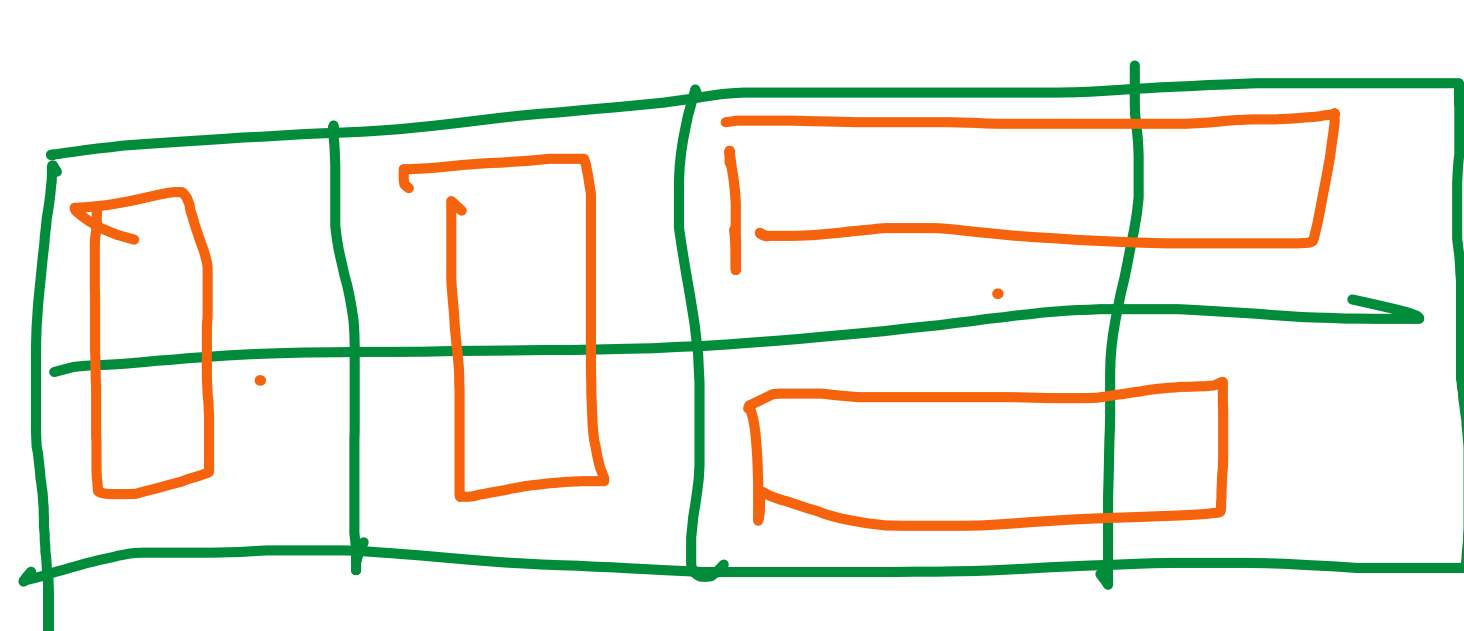
$n=4$ $2 \times n$ Size of board
 2×4



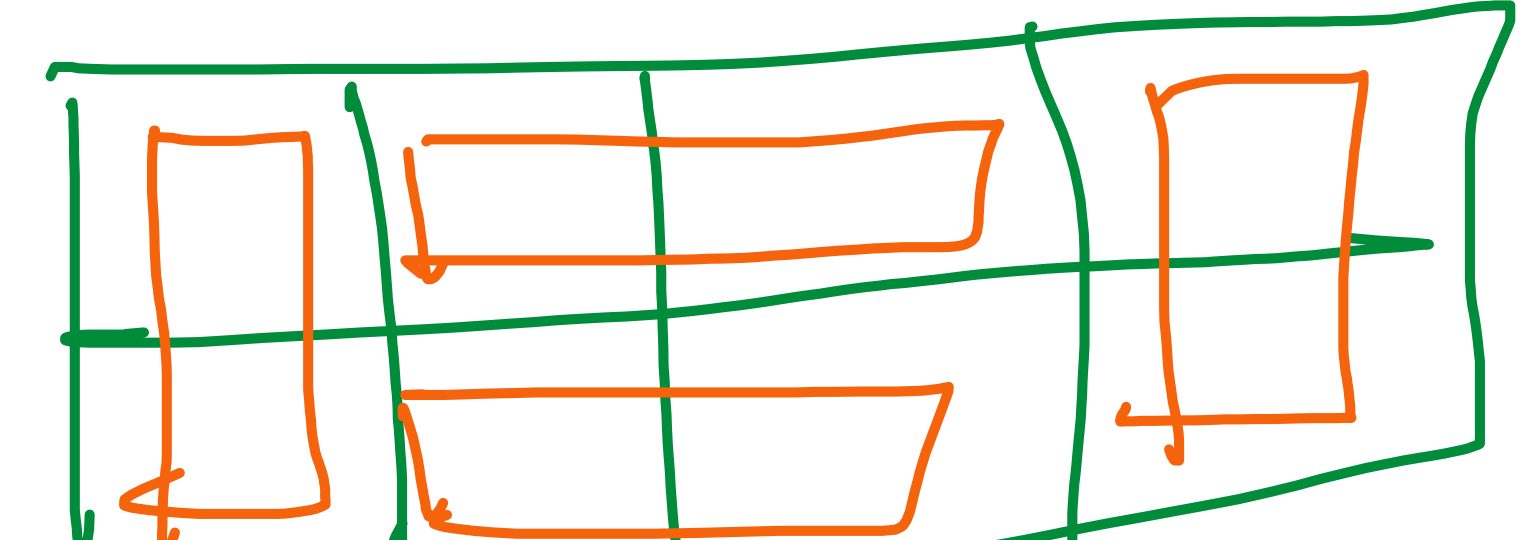
1. All tiles in vertical

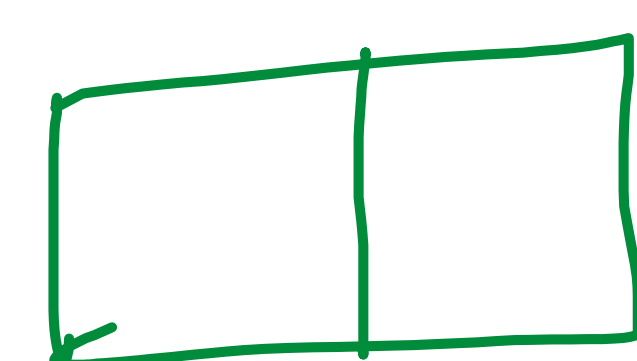
2. All tiles in horizontal

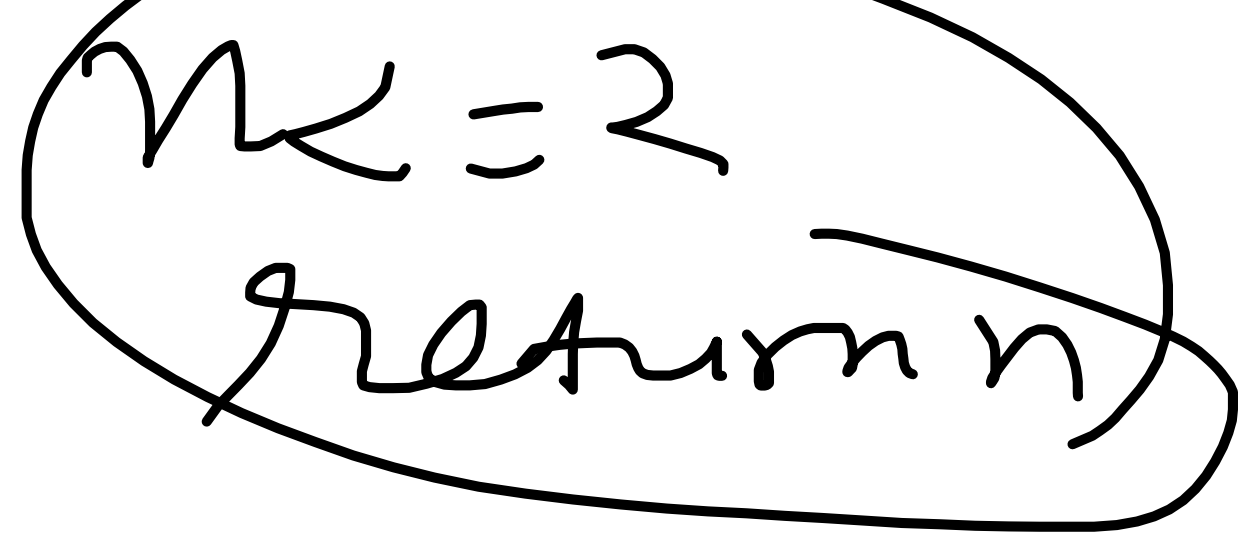


3.  $\left. \begin{matrix} 2H \\ 2V \end{matrix} \right\}$

4. 

5.  $3 + 1 + 1 = 5$

$n=3$ $2 \times n$ 2×3 



$[1, 1, 2, 3, 1, 3, 4]$

2. Permutations:

10:28

1535

output:-

A

A B C

→

13.5

Bl

1 char \rightarrow 2 position

A hand-drawn diagram of a 2D coordinate system. The horizontal axis is labeled 'A' and the vertical axis is labeled 'B'. A point is plotted in the first quadrant, with dashed lines indicating its coordinates. The point is labeled 'C'.

2 char \rightarrow 3 position

$\oplus 1$ \nearrow

Small prob $Cabc$, 1)

1. Base case

```

if Cindex == str.length-1) {
    let br = [];
    br.push([str.charAt(Cindex)]);
    return br;
}

```

2. Recursion:-

let res = permutation(str, index+1);

3.

let $m = \tau_j$

```
for (let i = 0; i < res.length; i++)
```

```
let val = yes[i]; // Chc
```

for c let $\bar{j} = 0$; $\bar{j} < \text{val}[0] \cdot \text{length}$; $j \neq$

2

3

3

Q child \rightarrow staircase \rightarrow n steps

1 } hop steps
2 } at a time
3 }

Find no. of ways to climb stair.

$n=1$ \rightarrow steps \rightarrow 1

$n = 2 \rightarrow \begin{matrix} 1 & 0 & 1 \\ 2 \end{matrix} \quad \} \quad \underline{2 \text{ Ways}}$

$n=3 \rightarrow$

1, 1, 1	} 4 ways
2, 1	
1, 2	
3	

$n=4 \rightarrow$ 