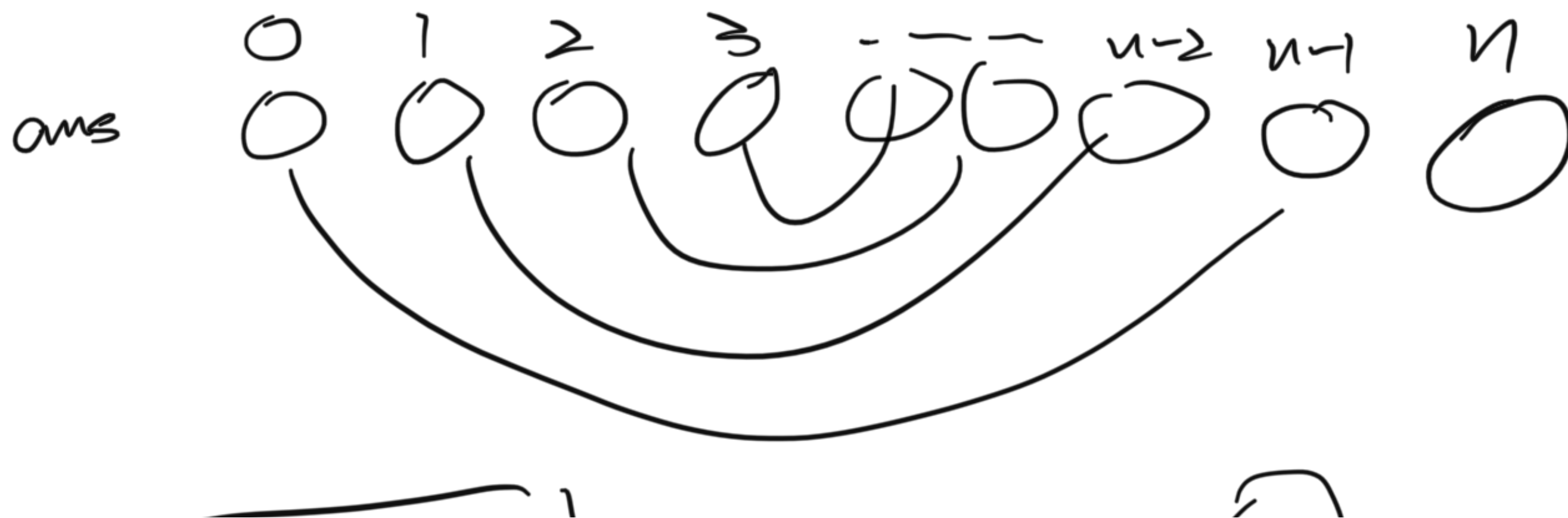


fun

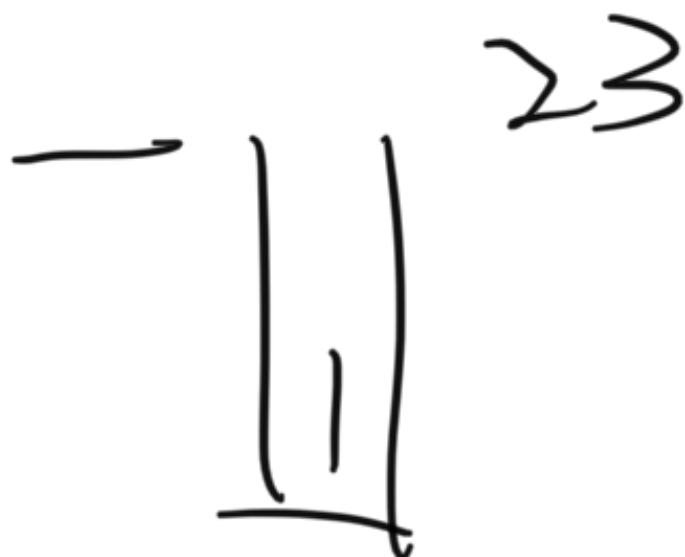
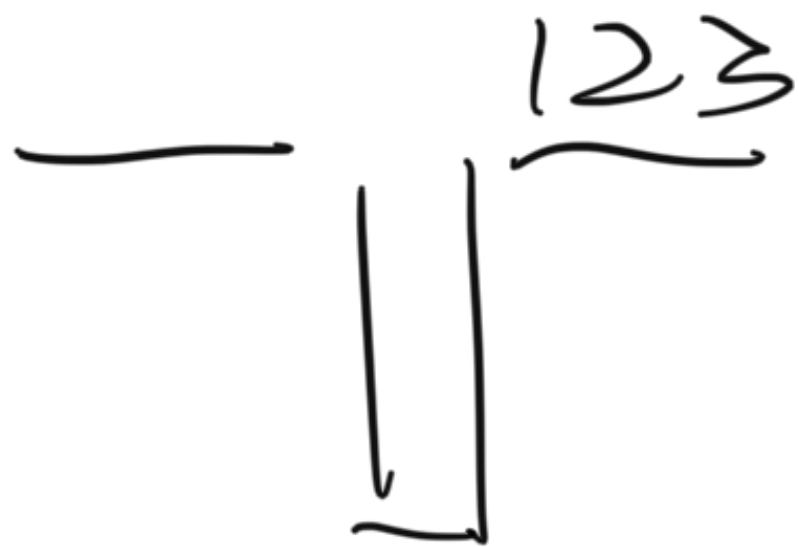
$$ans[n] \rightarrow \sum_{j=0}^{n-1} ans[j] \cdot ans[n-1-j]$$



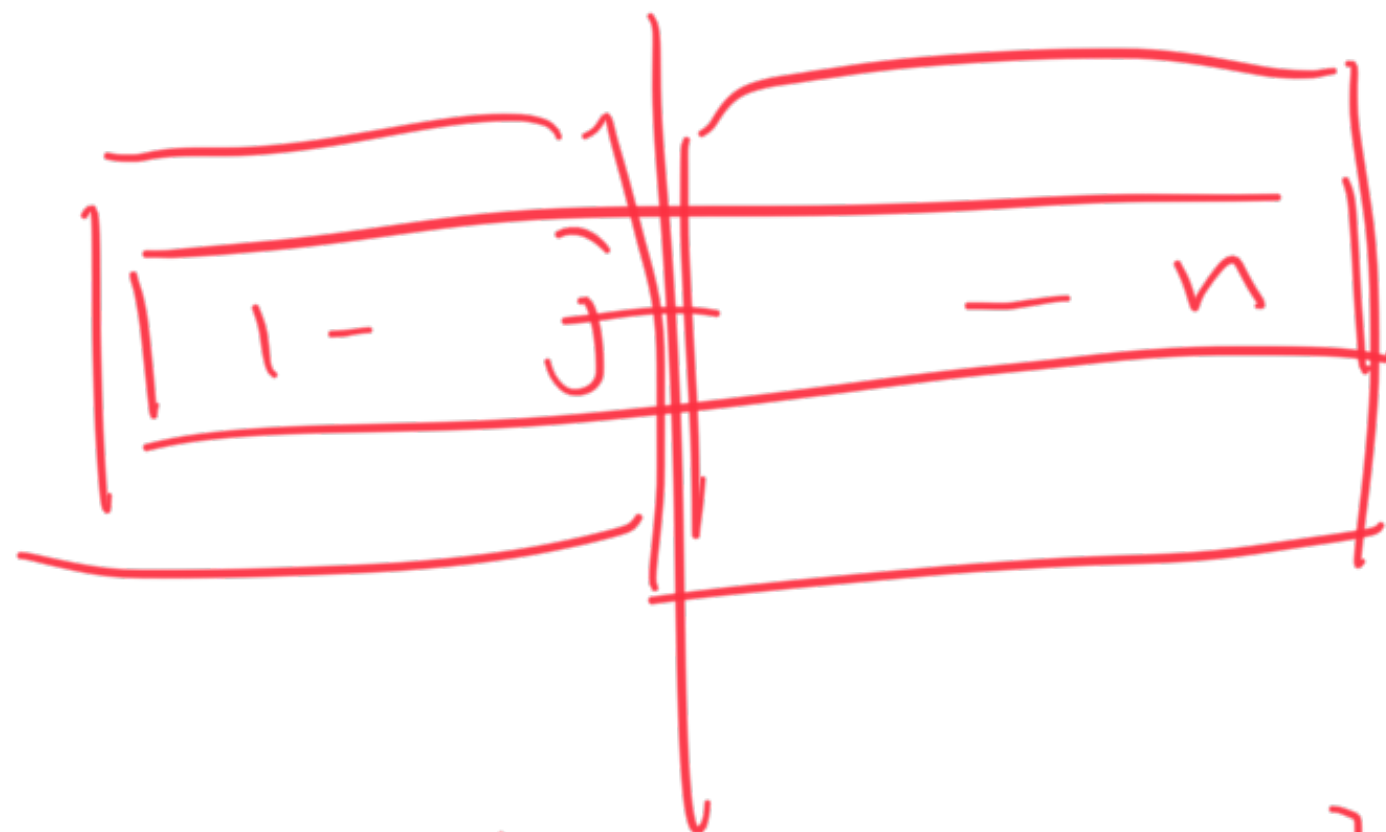
$$li[0][i] = 1$$



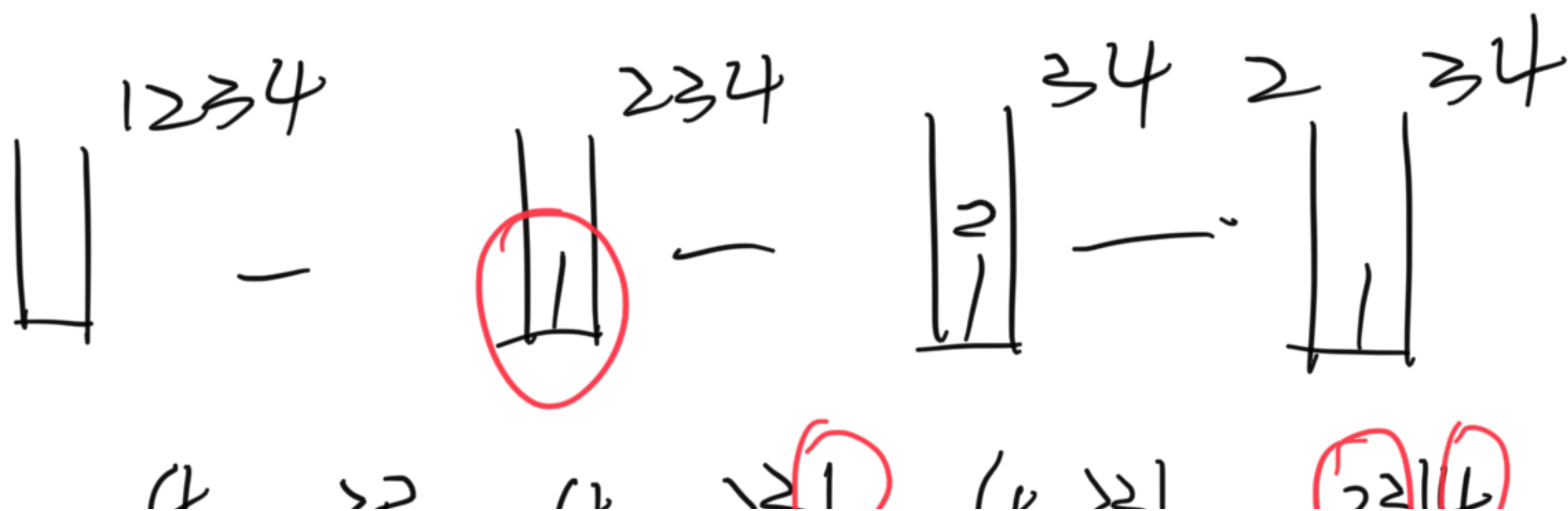
$n=3$

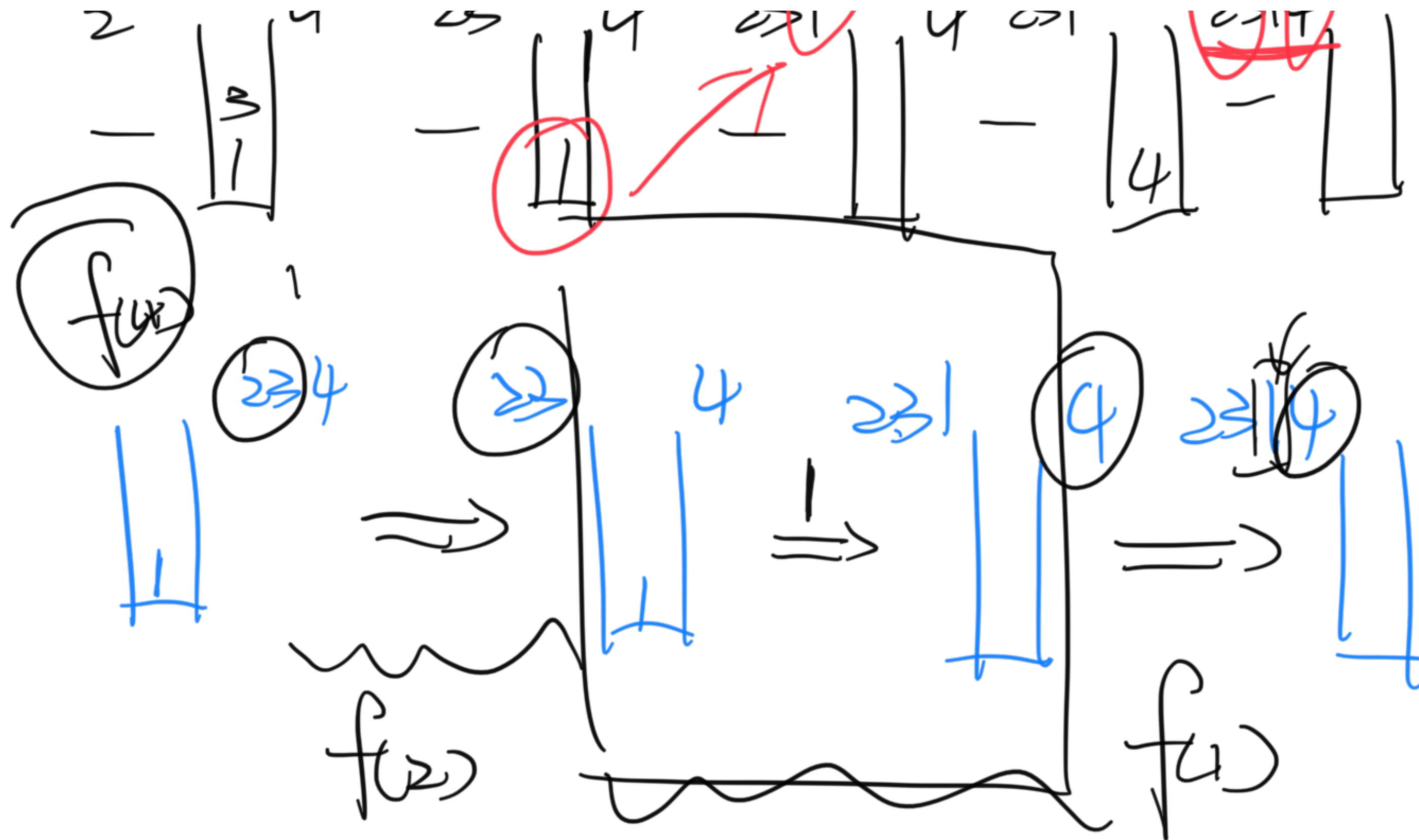


$$li[0][i] = 1$$



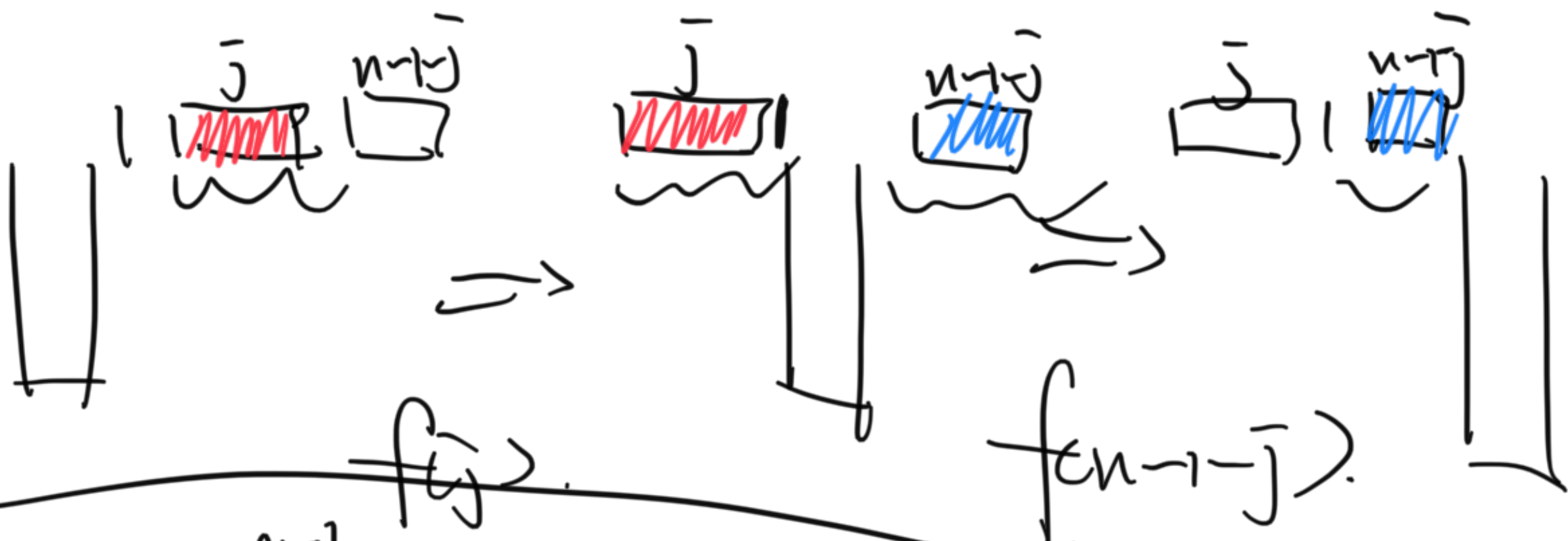
$$\text{ans}[j] - \text{ans}[n-j]$$





$$f(x) = f(z) * f(u).$$

12 ~ ~ ~ ~ ~



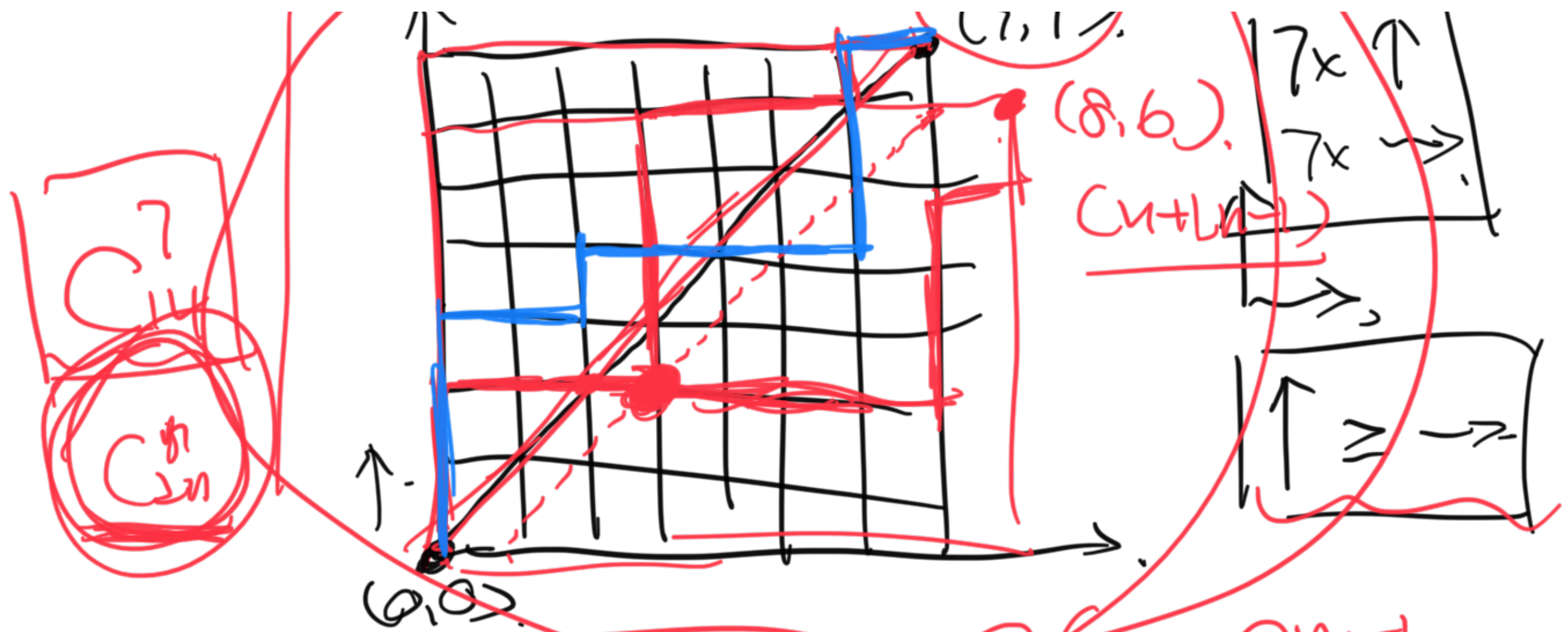
$$f_n = \sum_{j=0}^{n-1} f_j) \cdot f_{n-1-j})$$

$$f(n) = \left\lfloor \frac{C_n}{(n+1)} \right\rfloor$$

$$n \rightarrow 2 \times V$$







$(0,0) \rightarrow (8,6)$   $C_{14}$   $C_{2n}$

$(0,0) \rightarrow (7,7)$  违反条件

$C_{14}$

$\uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$

$$(0,0) \rightarrow (8,6) \quad \delta x \rightarrow$$

$$6x \uparrow$$

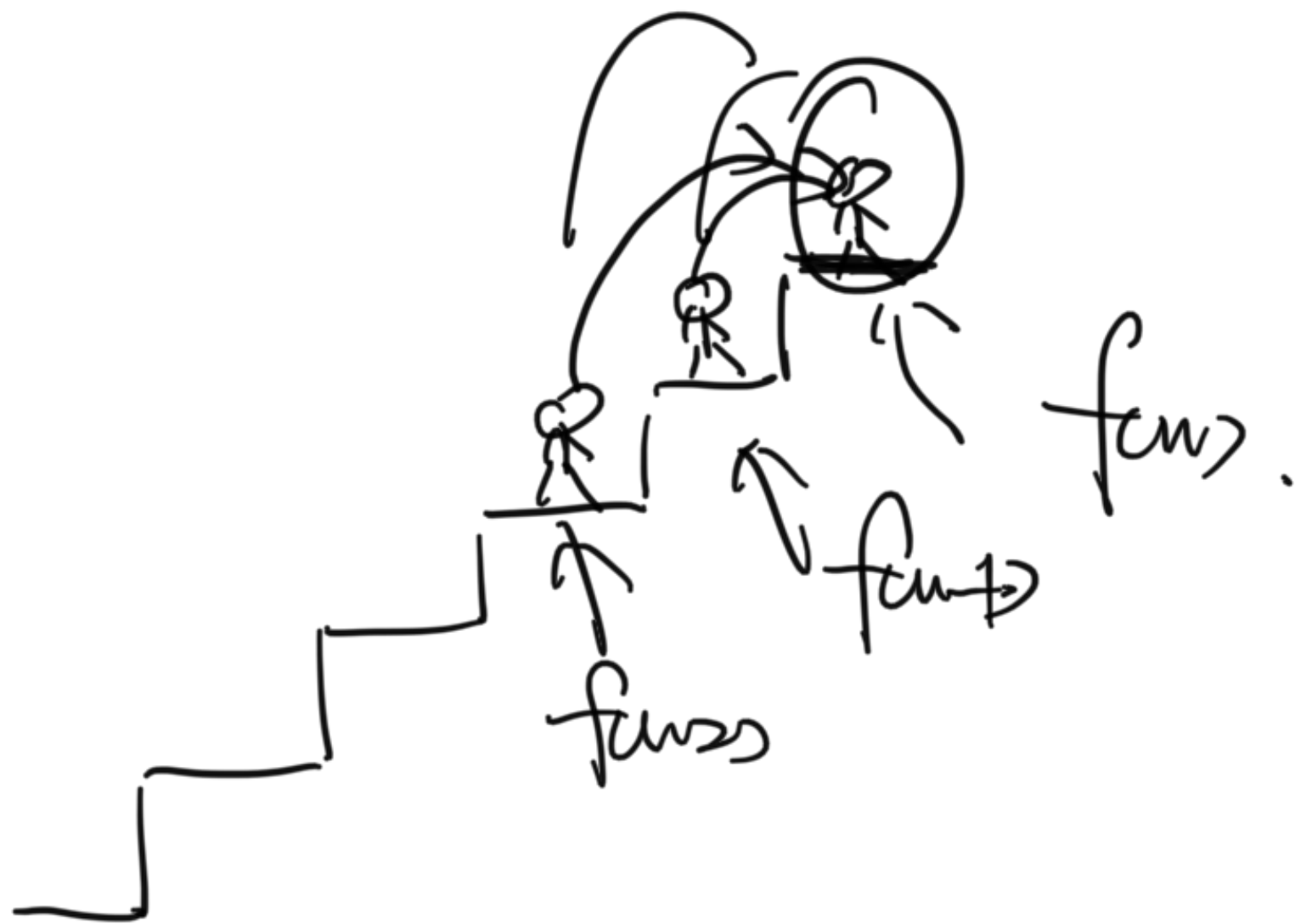
$$C_{14}^6 = C_{14}^8$$

$$C_{2n}^n - C_{2n}^{n-1} = \frac{C_{2n}^n}{n+1}$$

$$C_{2n}^{n-1} = C_{2n}^n \times \frac{n}{n+1}$$

$$C_n^m = \frac{n!}{(n-m)!m!}$$





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

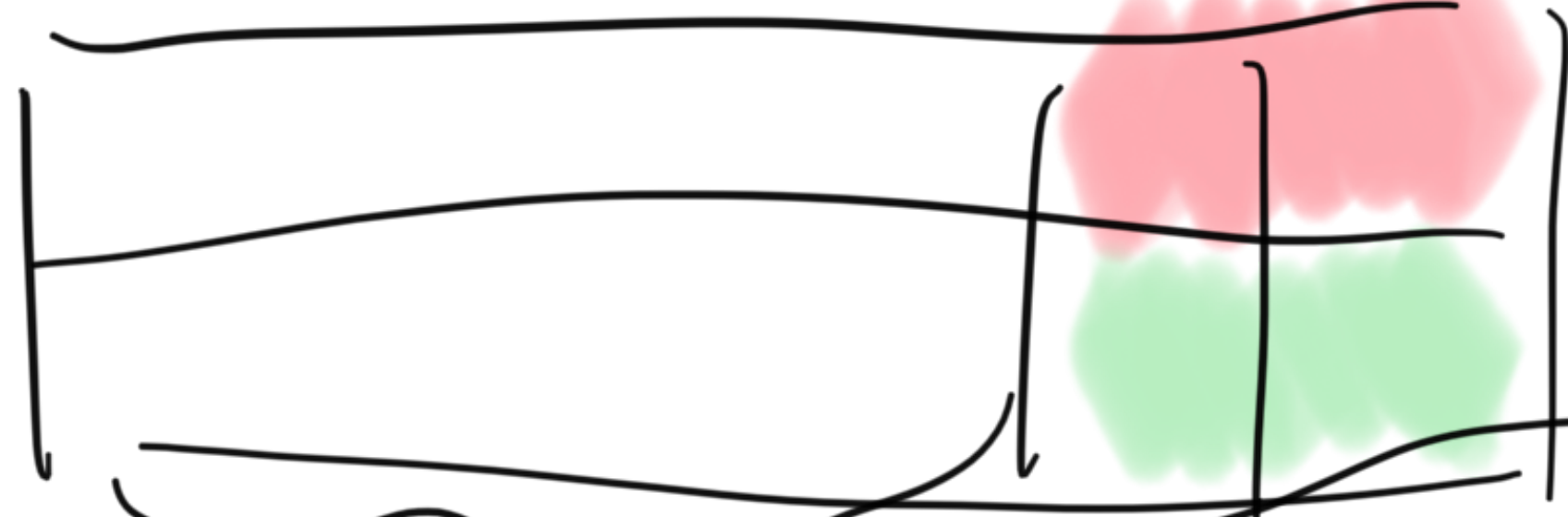
$2 \times N \rightarrow f(n)$



$$2 \times (n-1)$$

$$n+2$$

$$f_{n-1}$$



$$2 \times (n-2)$$

$$2 \times g_{n-2}$$

$$f_n = f_{n-1} + f_{n-2}$$

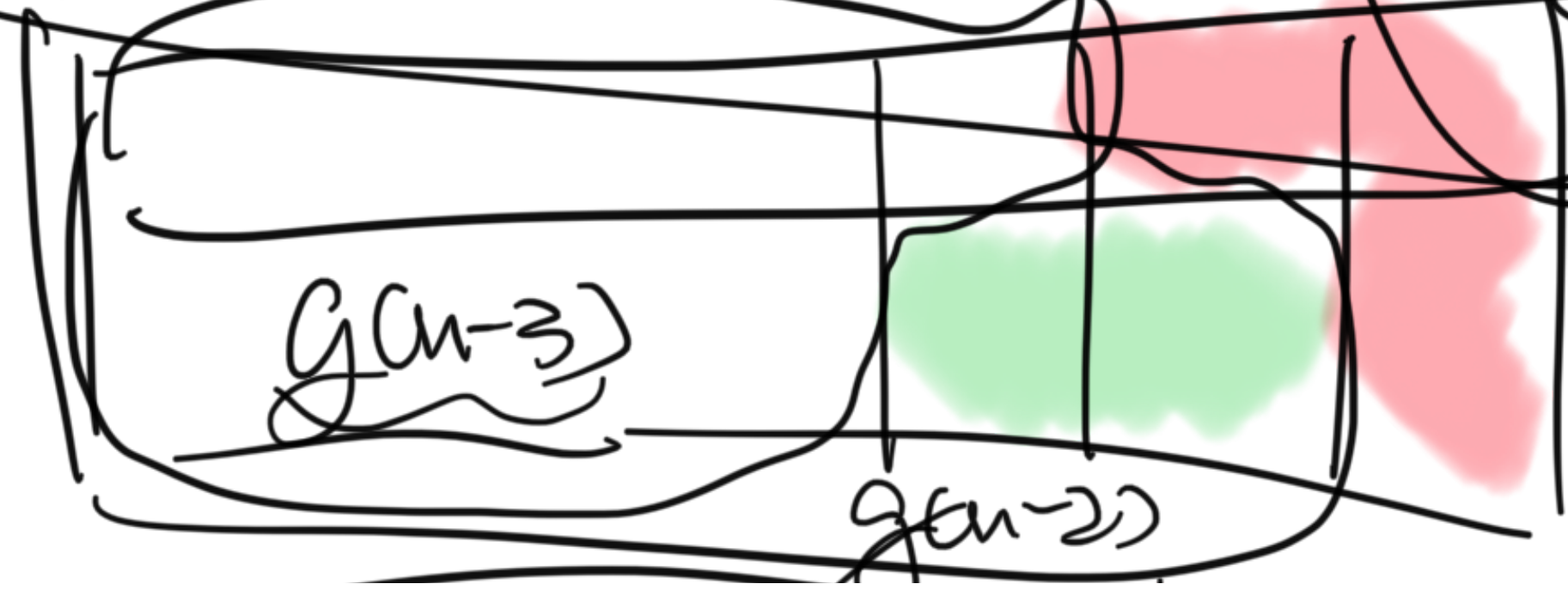
$$+ f_{n-3}$$

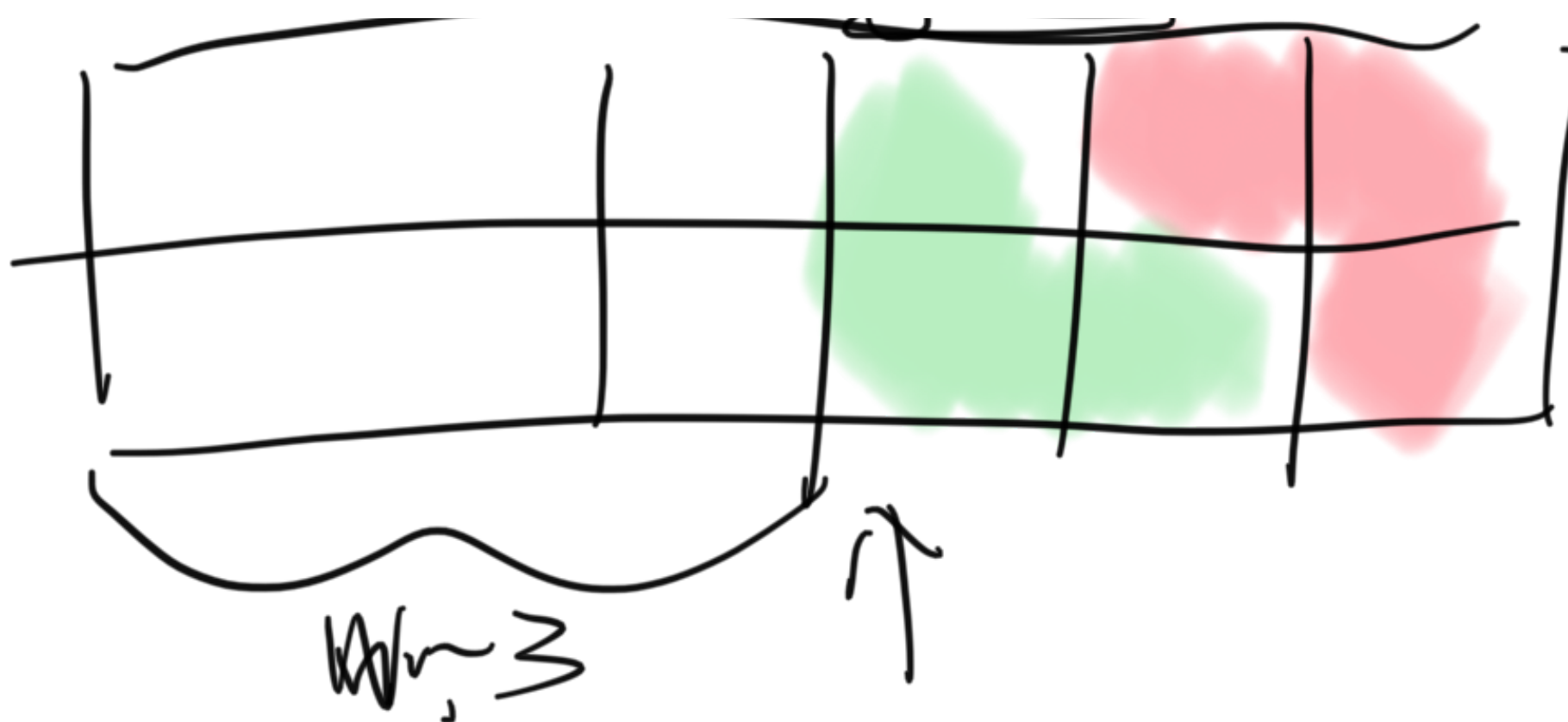
$$+ 2 \times g_{n-3}$$

$$g_n$$

$$g_{n-3}$$

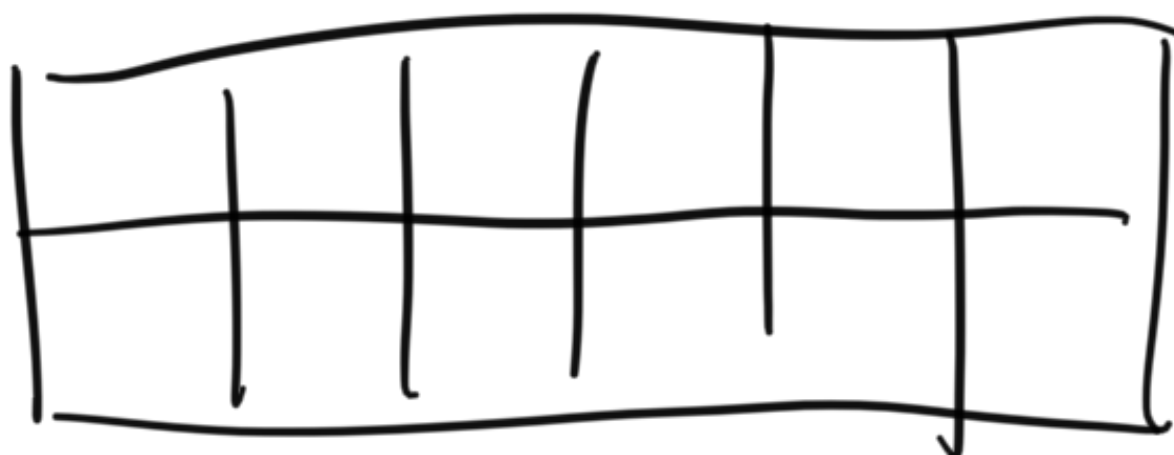
$$g_{n-2}$$



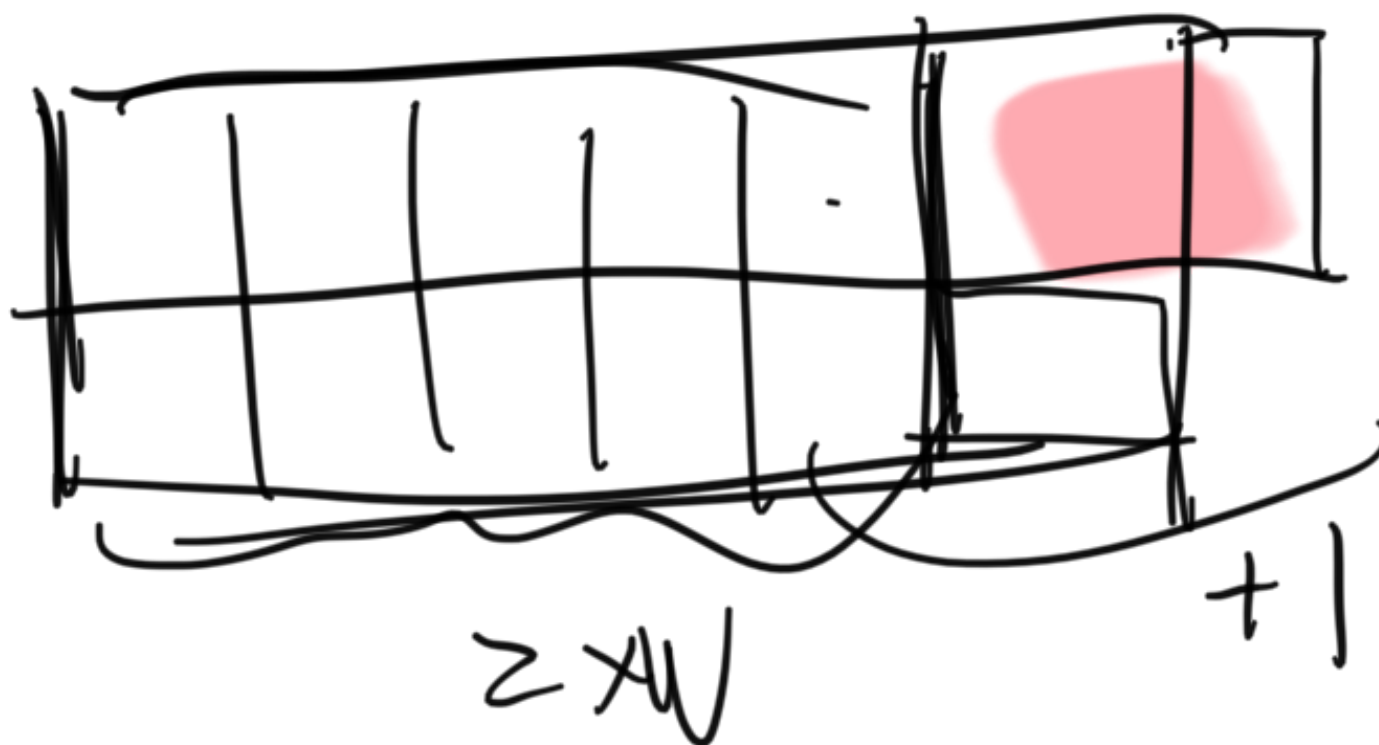


2xN

fun.



g<sub>n</sub>



g<sub>n-1</sub>





$f_{n-1}$

$$\underline{g(n)} = g(n-1) + f(n-1)$$

$$f(n) = f(n-1) + f(n-2) + 2 + f(n-3) + 2 + g(n-3)$$

$n \geq 3$

| f | g |
|---|---|
| 1 | 1 |
| 2 | 2 |
| 5 | 4 |





7 10 11 12

1 2 3 4 5 6 7 8 9 10 11 12

1 2 3 4 5 6 7 8 9 10 11 12

fu gu fu2 gu2

for i=1 to n

fu =

gu = (gu + fu) % 10000

1 2 3 4

% 10000

1e9 + 7



$$\text{disp}(3) = \text{disp}(7) + \text{disp}(3) + \text{disp}(0)$$

$$\begin{aligned} \text{disp}(3) &= \text{disp}(2) + \text{disp}(2) + \text{disp}(0) \\ &+ \text{disp}(2 + \text{disp}(0)) \\ &+ \text{disp}(0) \end{aligned}$$

void disp(int x)

9

1.