

$n \rightarrow$  count colors 4

$k \rightarrow$  count color 3  $\gamma b g$

at max 2 can  
same color

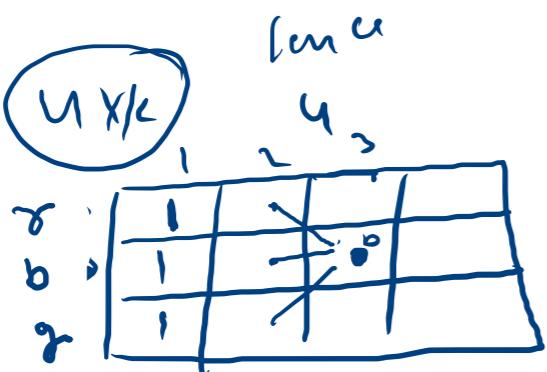
$\gamma \gamma b \gamma$  ✓

$\gamma \gamma \gamma b$  ↗

$\gamma \gamma s \gamma$  ✓

$b b b \gamma$  ↗

$b b b g$  ↗



$$\begin{matrix} n = 3 \\ k = 3 \end{matrix}$$

$\gamma \gamma b$   
 $\gamma \gamma s$   
 $\gamma b b$   
 $\gamma g s$   
 $\gamma b g$   
 $\gamma g b$   
 $\gamma b \gamma$   
 $\gamma g \gamma$

$$\begin{matrix} n = 4 \\ k = 3 \end{matrix}$$

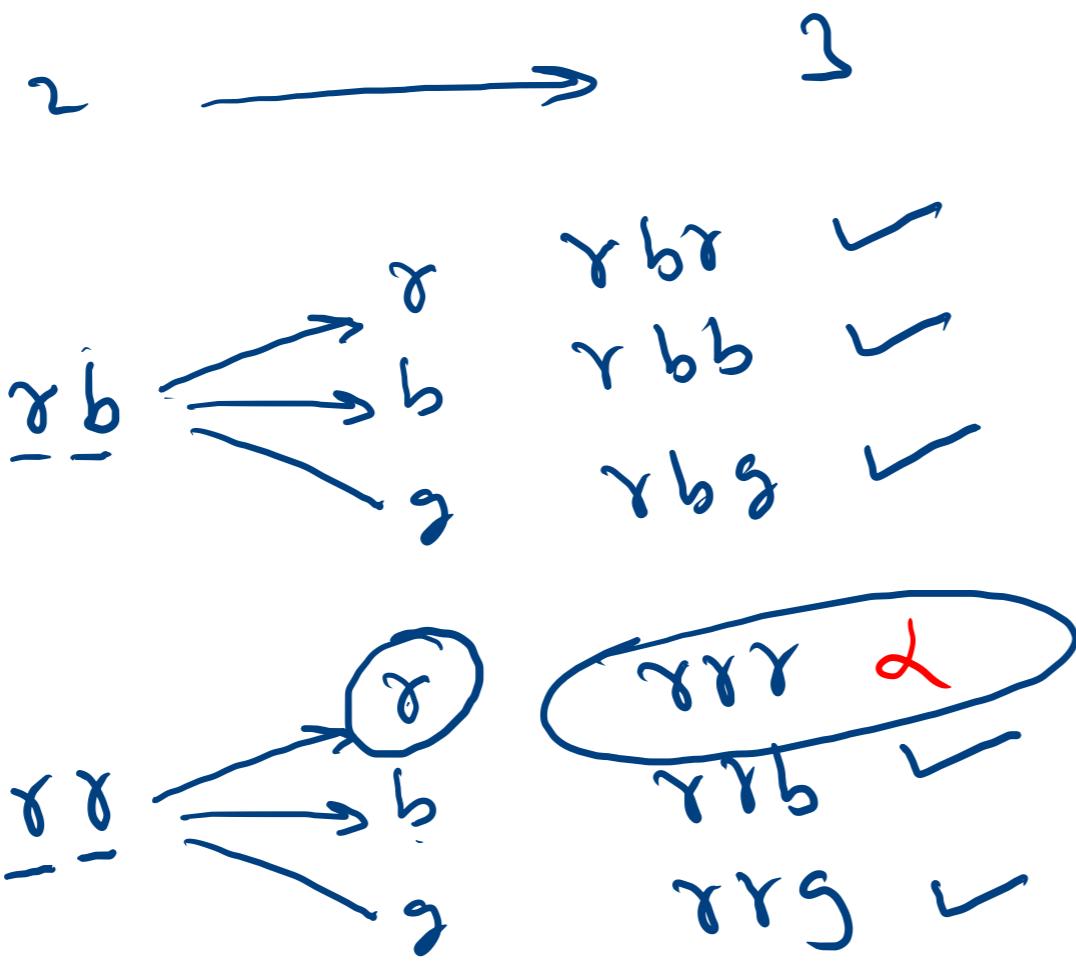
$\gamma \gamma b b$        $\gamma \gamma b \gamma$   
 $\gamma \gamma b s$        $\gamma \gamma b \gamma$   
 $\gamma \gamma g b$        $\gamma \gamma s \gamma$   
 $\gamma b s \gamma$   
 $g b \gamma s$

00 ↗

00 000 ↗

$n \rightarrow ?$

$k \rightarrow 3 \quad \gamma, b, g$



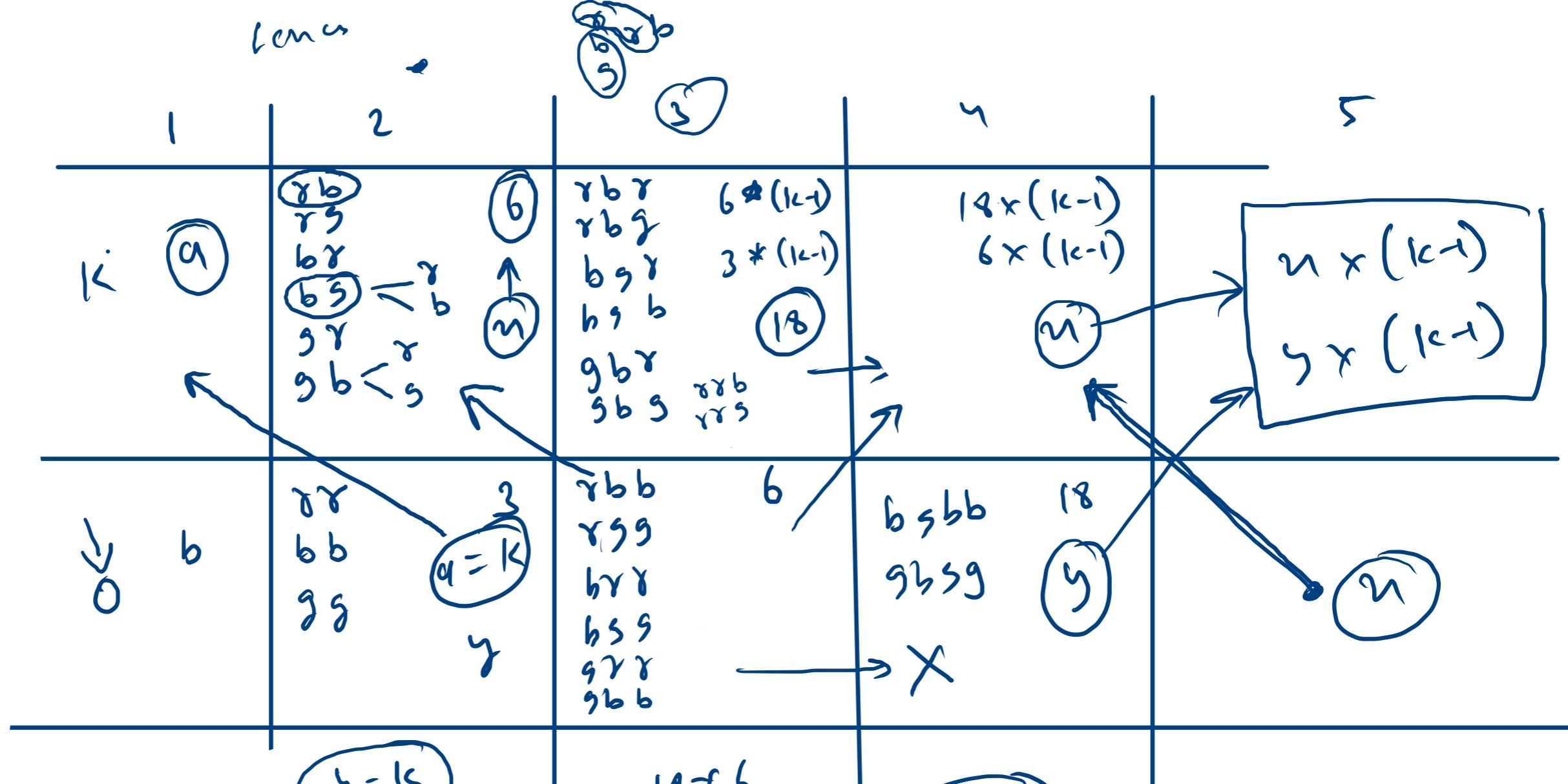
2 sam

$k = 3$   
 $\gamma_{bg}$

Lan 2 dill  
i i

(a) 2 same  
ii

Tom

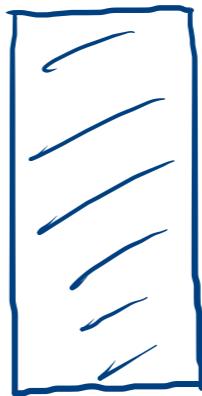


$$\begin{aligned} u_{fb} &= k \\ 1/u_{fb} &= 1/k \\ k \neq 0 &= k \end{aligned}$$

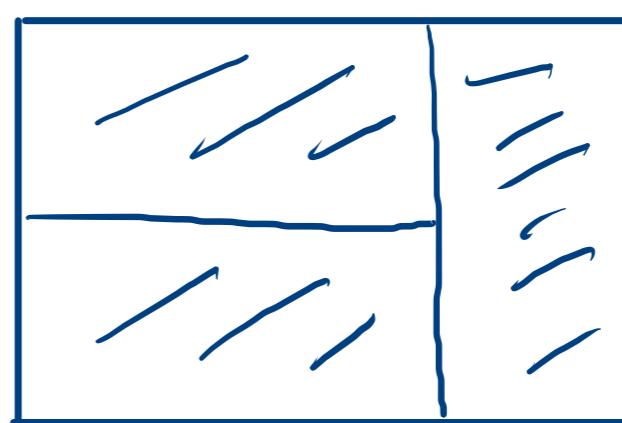
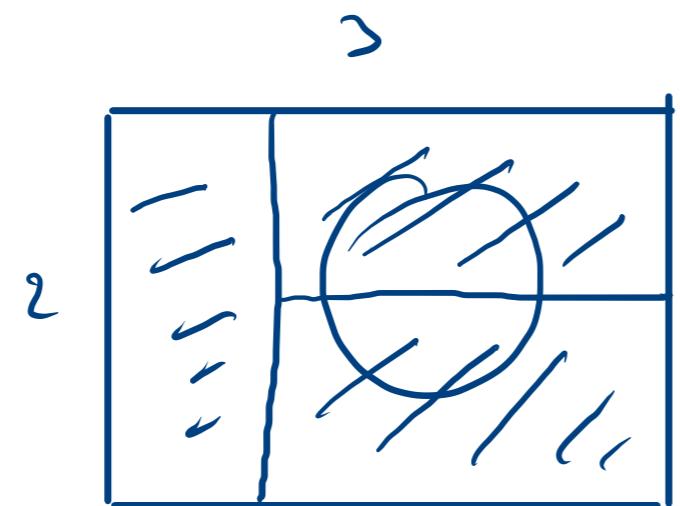
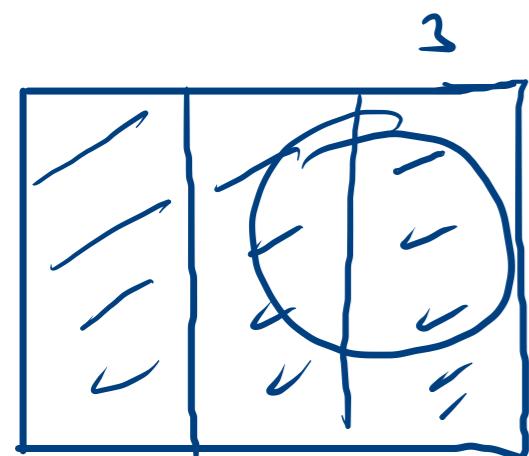
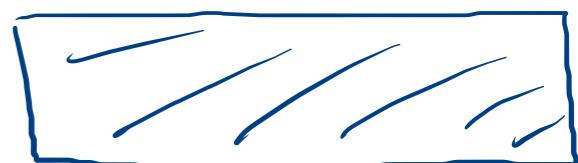
$\text{nr } 3$

$2 \times 3$

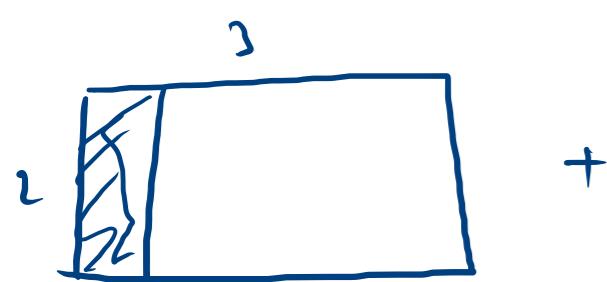
(2x1)



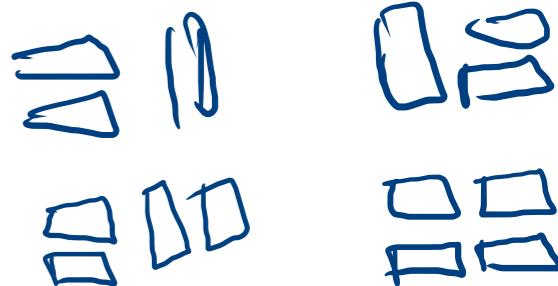
(1x2)

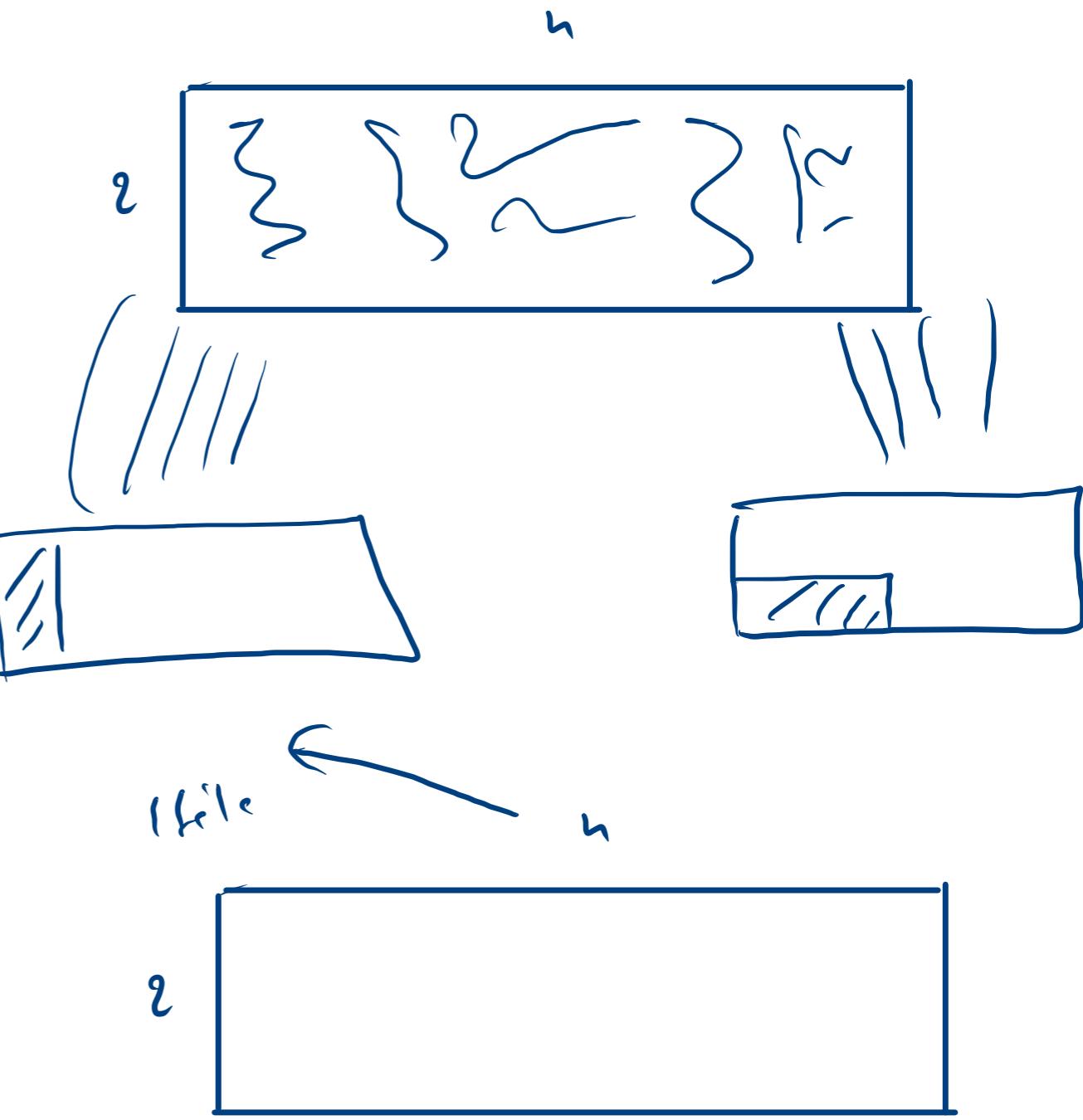
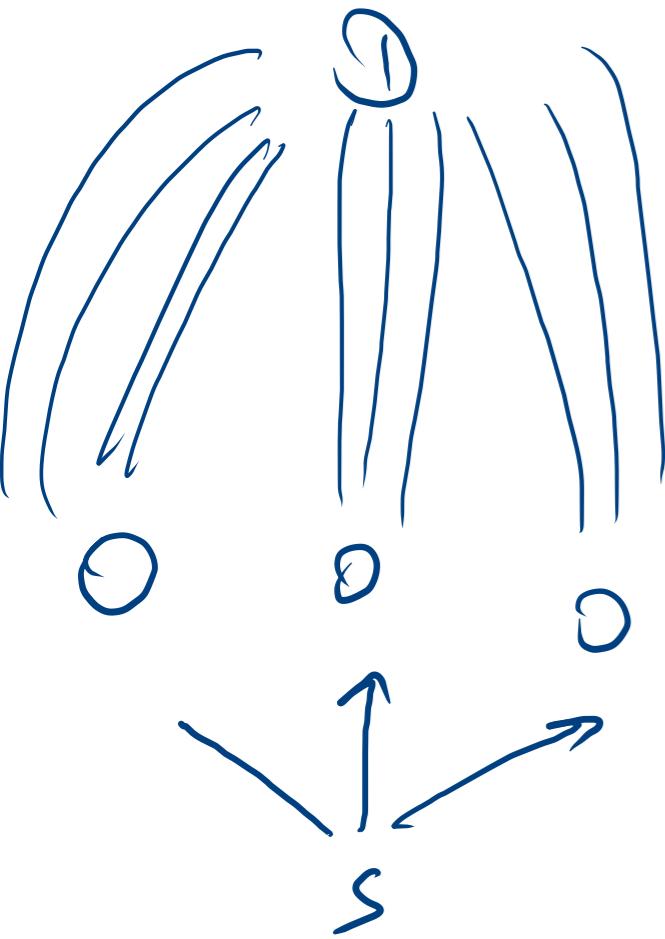


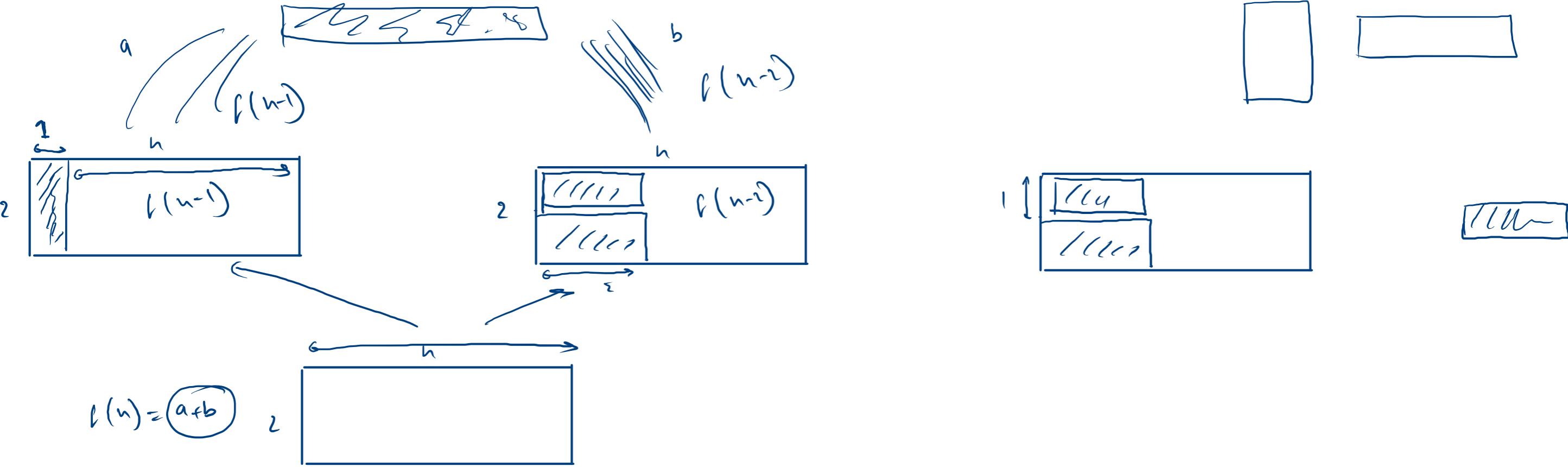
= (3)

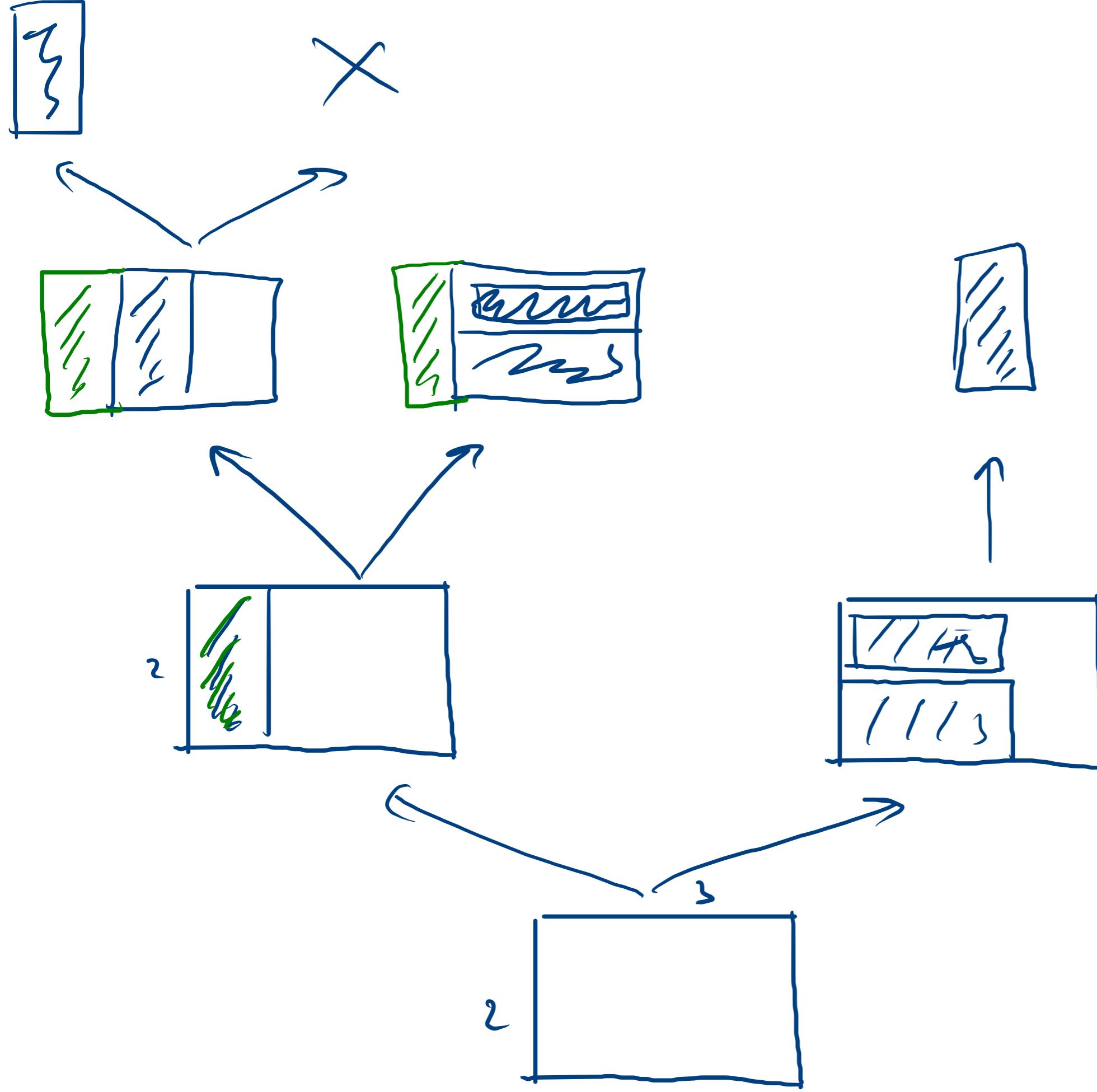


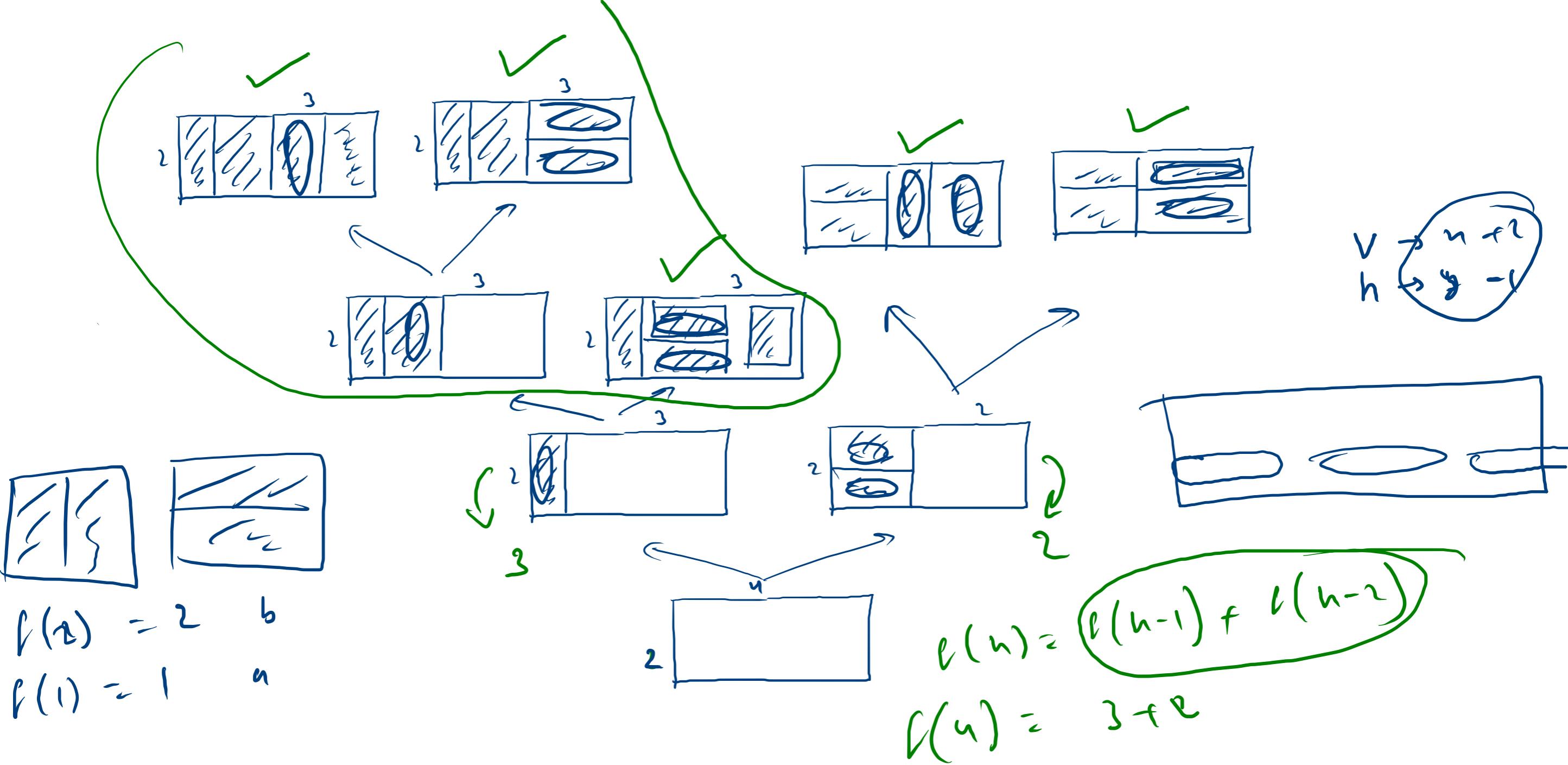
0 & +











~~1. 3 4 5~~

0	1	2	3	4	5	6
	1	2	3	5	8	13

a      b

```
int a = 1;  
int b = 2;  
  
for(int i=2;i<=n;i++){  
    int c = a+b;  
    a=b;  
    b=c;  
}  
System.out.println(a);
```

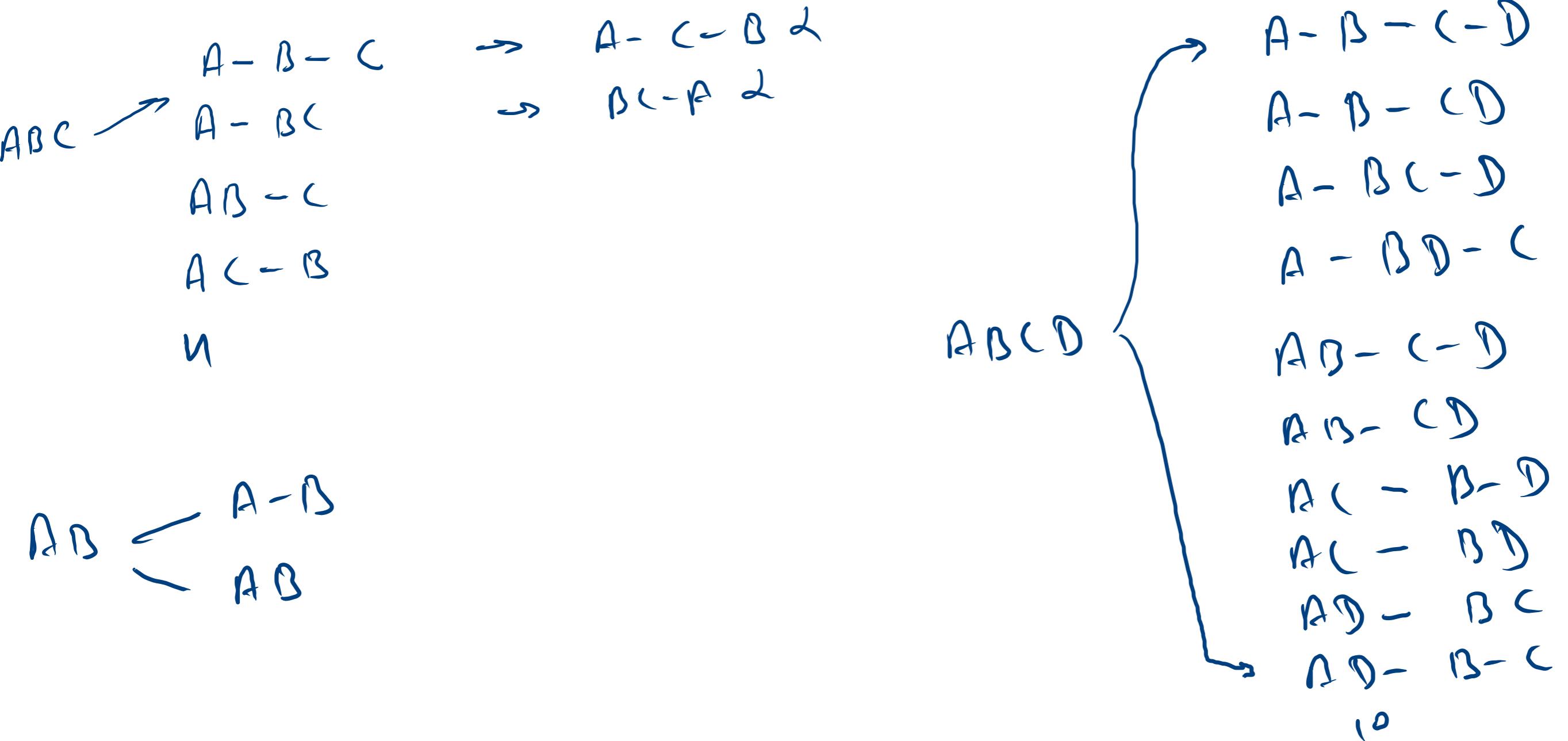
.

↑  
ans      n<sup>th</sup>

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

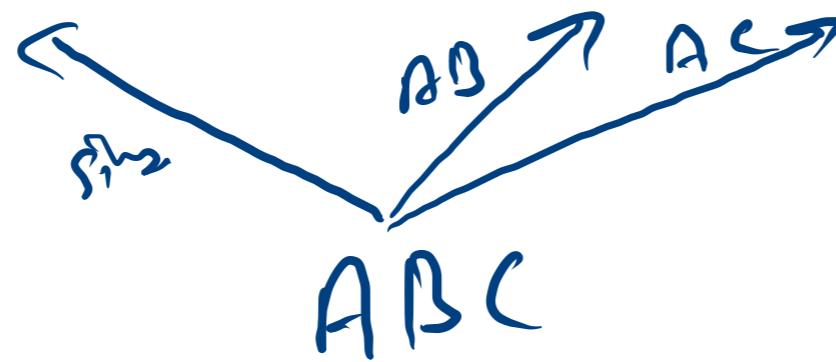
$n = 3$

combinations  
only



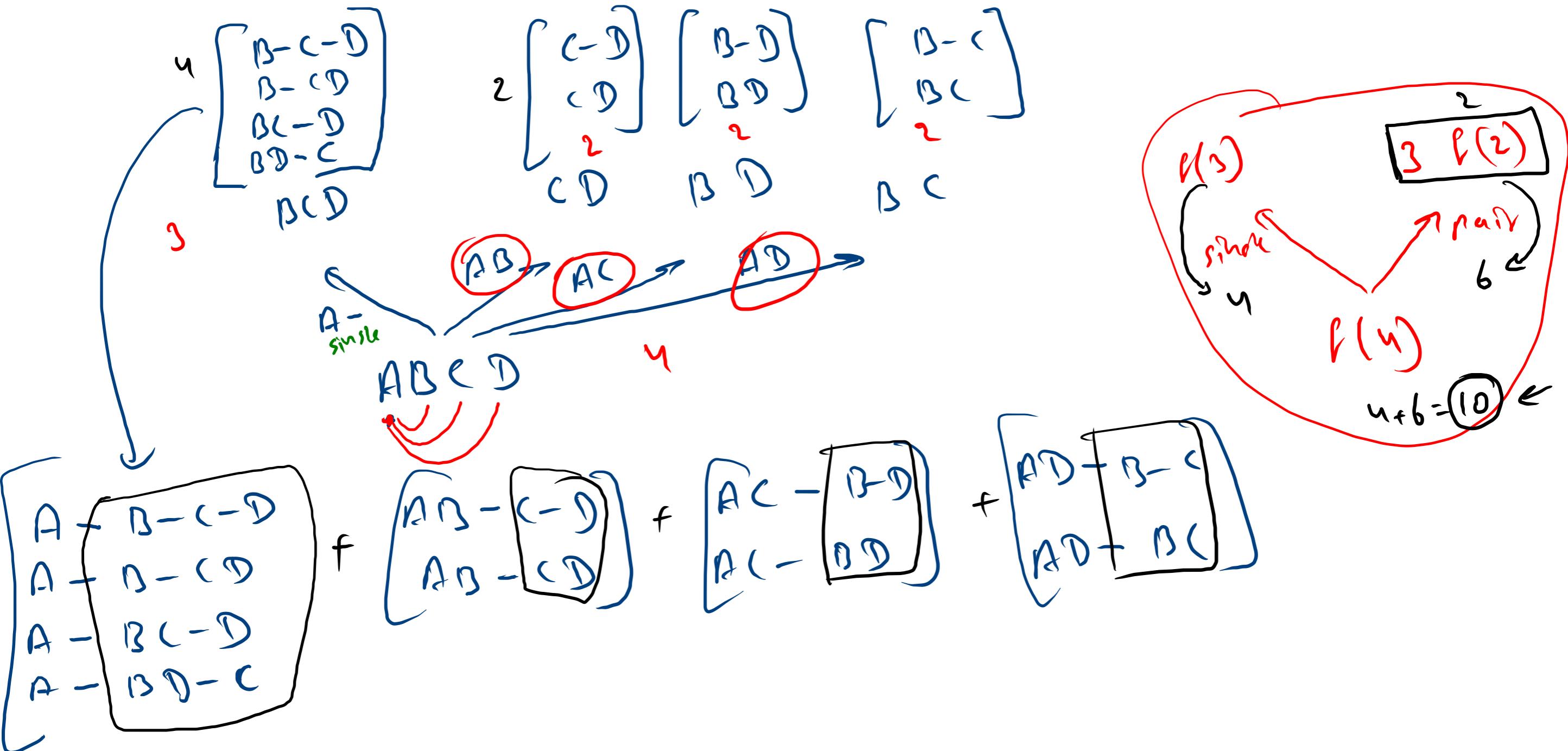
$$\begin{bmatrix} B-C \\ BC \end{bmatrix} \quad \begin{bmatrix} C \end{bmatrix} \quad \begin{bmatrix} D \end{bmatrix}$$

BC              C              D



$$\begin{bmatrix} A-B-C \\ A-BC \end{bmatrix}$$

$$\boxed{AD-C} \quad \boxed{AC-B}$$



13

2 f(2)

A hand-drawn diagram consisting of two curved arrows pointing away from each other, forming a V-shape. The arrows are drawn with a single continuous line.

$$f(y)$$

C(n-1)

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

A hand-drawn diagram consisting of three parts: a downward-pointing arrow originating from the word "simple" on the left, pointing to the mathematical expression  $f(n)$  below it; an upward-pointing arrow originating from the word "pair" on the right, pointing towards the same expression  $f(n)$ ; and the mathematical expression  $f(n)$  centered at the bottom.

ADD DEV = ✓

B(0)

A B C D

a	4	b				
1	2	3	4	5	6	7
1	2	4	10			

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

$$C(1) = 1$$

$$f(2) \approx 2$$

✓

1

- A - B

AB

$$4^4 + 3^3 \stackrel{?}{=} 6^6$$

$n \rightarrow$  player 4

$k \rightarrow$  group 3

$ABC[D][3]$

$A - B - CD$

$A - BC - D$

$A - BD - C$

$AD - C - D$

$AC - B - D$

$AD - B - C$

$ABCD[2]$   
 ~~$BC - AD - CD$~~

*silly*      *shame*

$A - B \subset D$

$AB - C D$

$AC - BD$

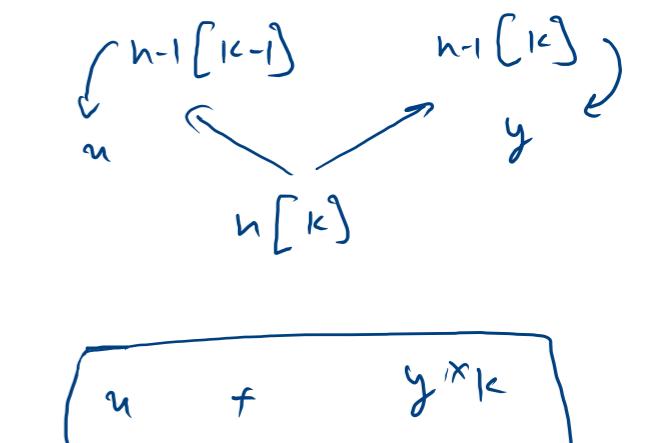
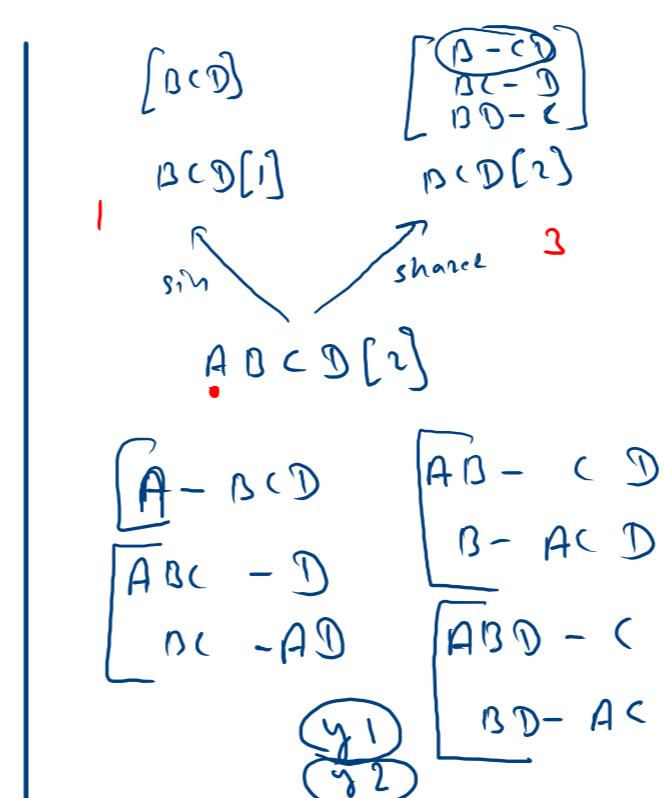
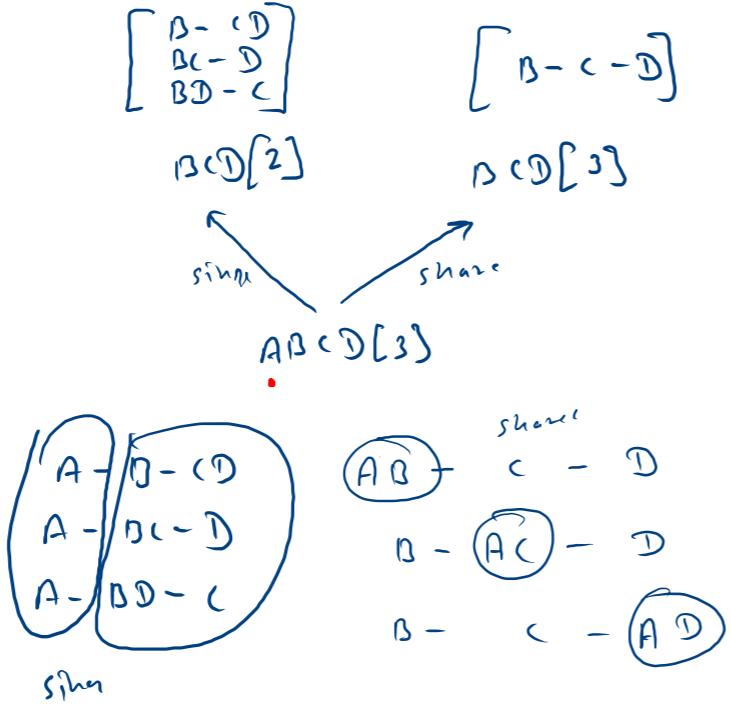
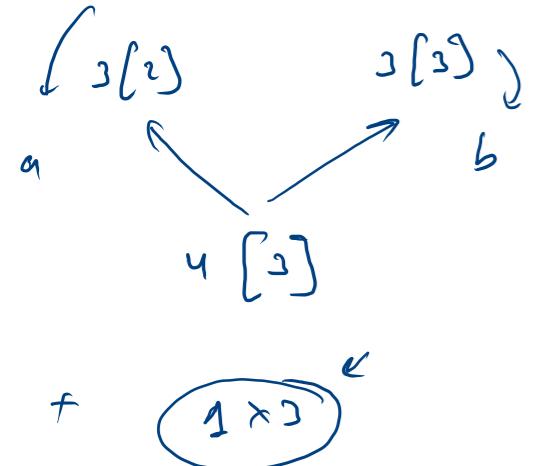
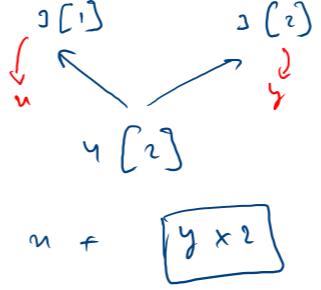
$AD - BC$

$ABC - D$

$ABD - C$

$ACD - D$

$ACD - B$



$$f(n, k) = f(n-1, k-1) + k * f(n-1, k)$$

$$f(n, k) = f(n-1, k-1) + k \otimes f(n-1, k)$$

$\textcircled{1} = \dots + \textcircled{k^{\textcircled{0}}}$

$n$

	0	1	2	$\frac{k}{3}$	4	5
0	1	0	0	0	0	0
1	0	1	0	0	0	0
2	0	1	1	0	0	0
3	0	1	2	1	0	0
4	0	1	3	1	1	0
5	0	1	✓	✓	✓	1
6	0	1	✓	✓	✓	✓

→ → → → → →

$n=9, k=0$

$n=6, k=5$

$n=2, k=3$

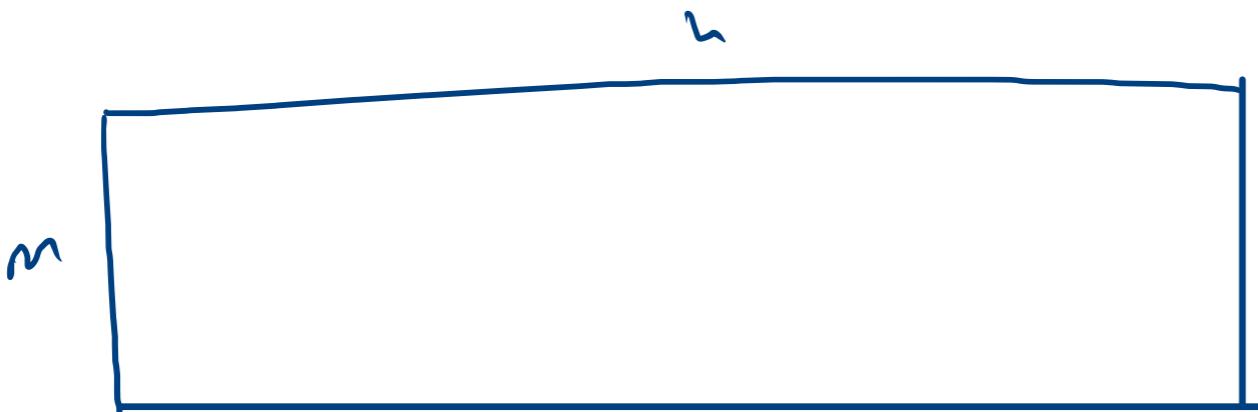
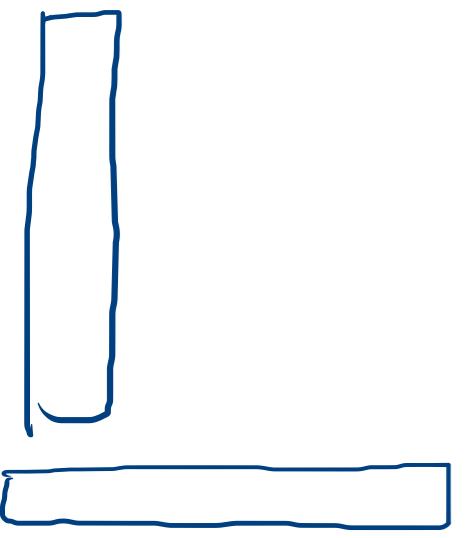
$k > n$

$n=2, k=2$

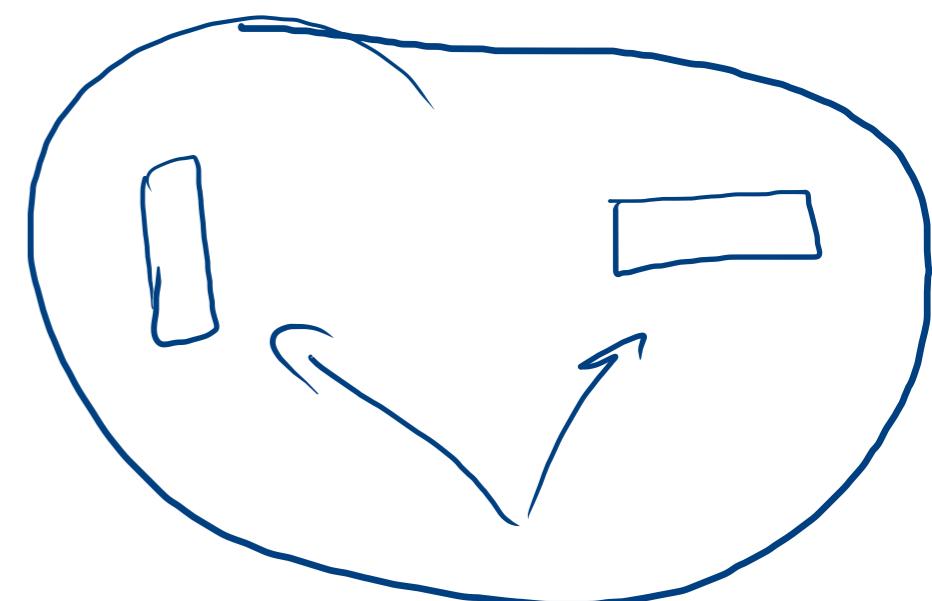
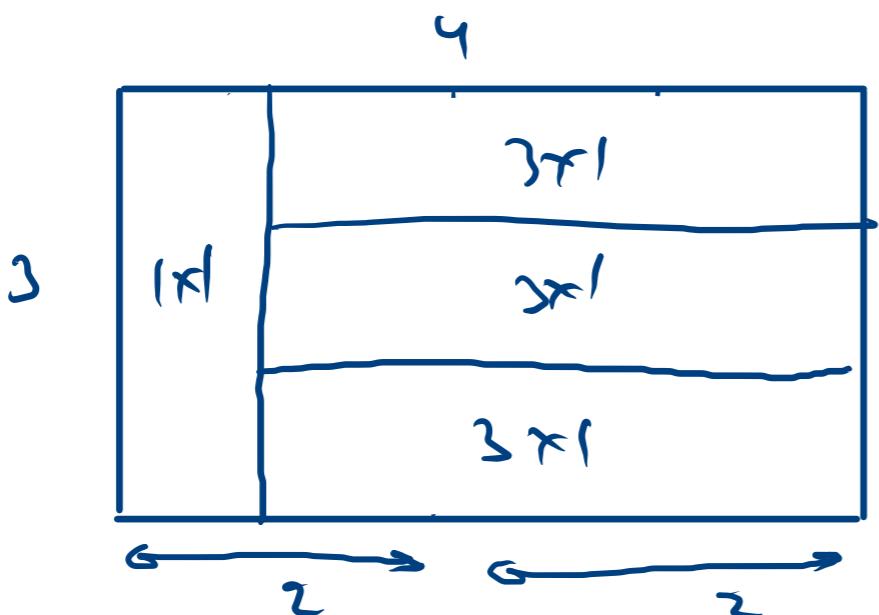
$n=k$

$M \times 1$

$n = 5$



$M = 3$   
 $n = 4$   
||||  
|||



? eels?

g  
g

gfd  
gg

gkcs k

g	g	e	e	k	s	s	e	e	k	s
1	1	1	1	0	2	2	2	2	2	2
0	0	0	1	1	1	1	1	1	1	3
0	0	0	0	1	1	1	1	1	1	4

$$a_{fbf} = (a_{fbf})^*_2 + u_f$$

gk

$$gk = gk$$

