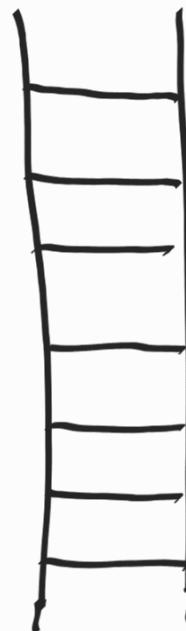


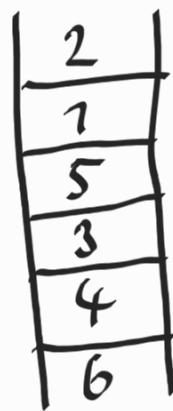
A



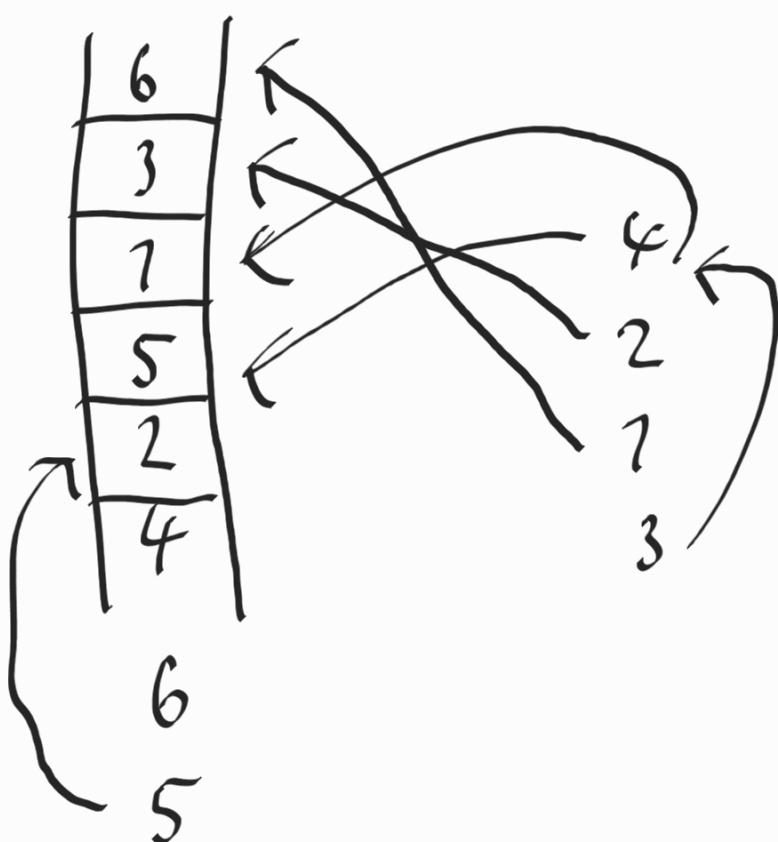
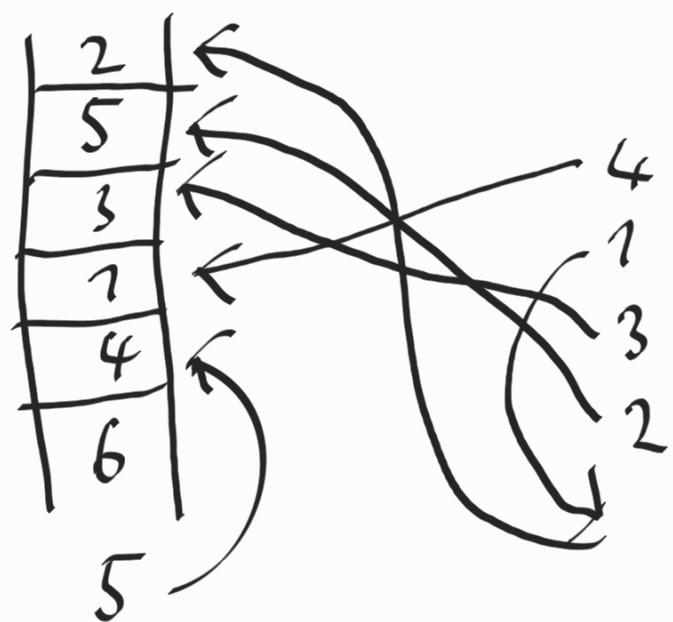
B



2
1
5
3
4
6



6
5



12
5

0
3
2

2
7

2
10
7
7
6
9
3
4
8
11

3 4 5 6 7 8 9
10 11 12

7 2

8
11
15
5
7
13
20
7
19
17
?

1 2 3 4 5 6 7 8 9
10 11



2
27
18
6
3
12
10
4
14
16
9

11
12
13
14
15
16
17
18
19
20
 $\frac{21}{3}$
4
5

X
6
7
2

8
11
15

A

B

~~25~~

5

7

13

~~20~~
7

29

~~27~~

2

27

28

6

3

12

10

4

14

~~26~~
9

1

0

3

15

20

19

17

21

18

16

13

11

~~8~~

5

1

2

1

001

110

000

010

101

011

111

100

001

101

011

111

010

110

000

100

10

00

000

11
001
010
011
100
101
110
111
10 010 001 01100
000

1001
1110
0000
1010
0101
0011
1111
0100
0001

1000
1100
0101
0010
0110
0111
1011



10

(11)

1000
1001
1011
1100
1110
1111
1010

0000
0101
0011
0100
0001
0101
0010
0110
0111
01 / 00

11 0111
 0110 }
 1000
 1001
 1011
 1100
 1110
 1111
 1010

(10) 0101
 0100 }
 0101

0000
 0101
 0011
 0100
 0001
 0101
 0010
 0110
 0111

0000
 0011
 0001
 0010

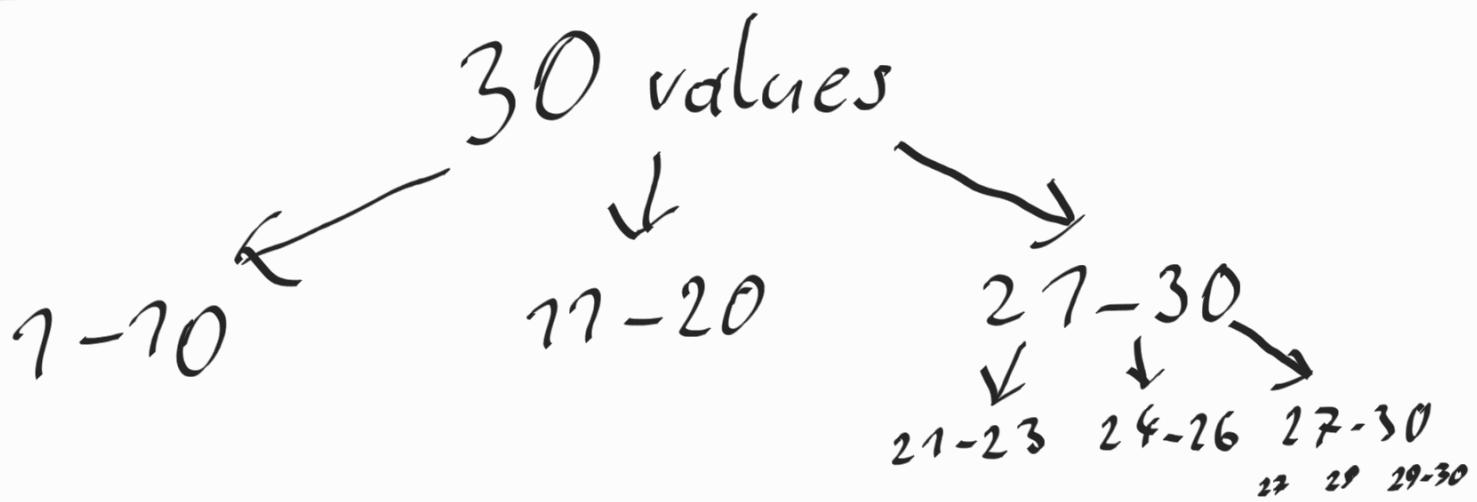
~~00/01~~

11 0000
 0001
 0010
 0011

	0100
>	0101
-	0101
	0110
	0111
<hr/>	
	1000
	1001
	1011
	1100
	1110
	1111
<hr/>	
1110	
<hr/>	
	0010

10

0000
0011
0001
0010
<hr/>
0000
0001
<hr/>
0101



base case of 3: push

although, I might
need to check at
the very beginning

if from not in order

swap from

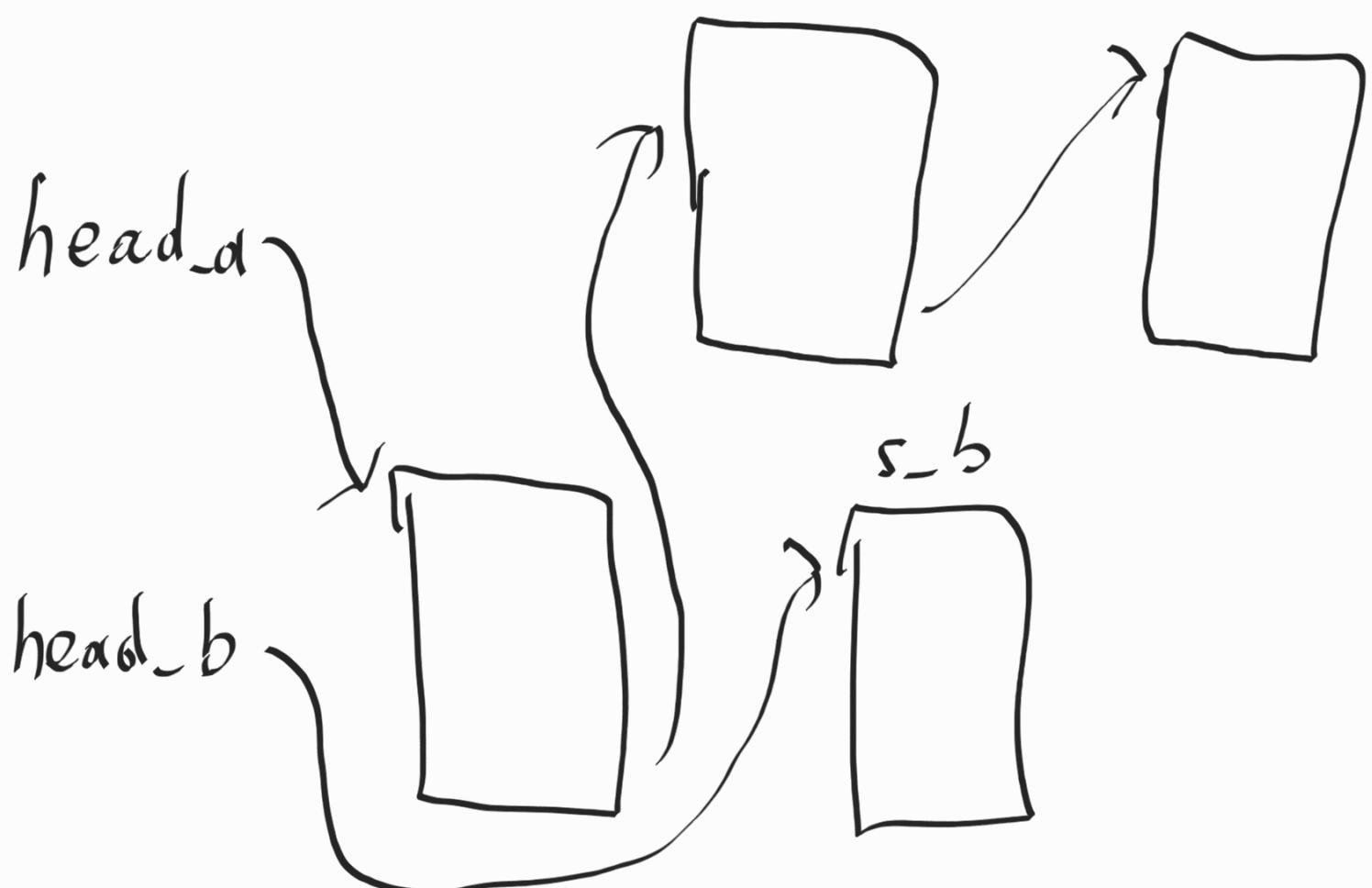
push

if to not in order

where I am

swap to
push

if to not in order
swap to



17-32

33-50

1-16

39 - 44

45-50 33-38
47-48
49-50 45-46

sort_three_alpha:

7 3 1 2 7 1
3 pb 2 sa 3 pa 2
2 3
2

7 1 2 7 1 2 7 1
3 (sa) 3 pb 2 (sa) 3 pa 2 (sa) 2
2 2 3

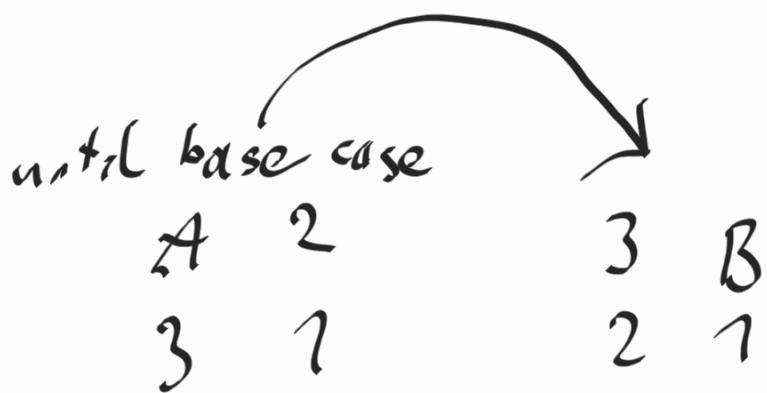
2 1
1 sa 2
3 3

2 3 2 1 2 2 1 2
3 pb 1 sa 3 pa 3 (sa) 2
1

3 1 3 2 3 2 1 2 1
1 pb 2 ra 2 3 pa 2 sa 3 rra 2
2 1 3 1 2 1 3

3 1 3 1 2 1 1

$$\frac{1}{2} (sa) \frac{3}{2} pb \frac{1}{2} (sa) \frac{3}{2} pa \frac{1}{2} \frac{3}{2}$$



A_{233}

233_2

3_3

23_2

2_1

1_1

1

1

2
2333
2331
2331

3
3
A
3

7
2
3

A

2
B
3
2

2

2

1

3

3

3

A

3

A

2 \leftrightarrow 1

1 B

2

B

2

2

1

1

B



quadrant
amount

A

B

6 5 5 4 4

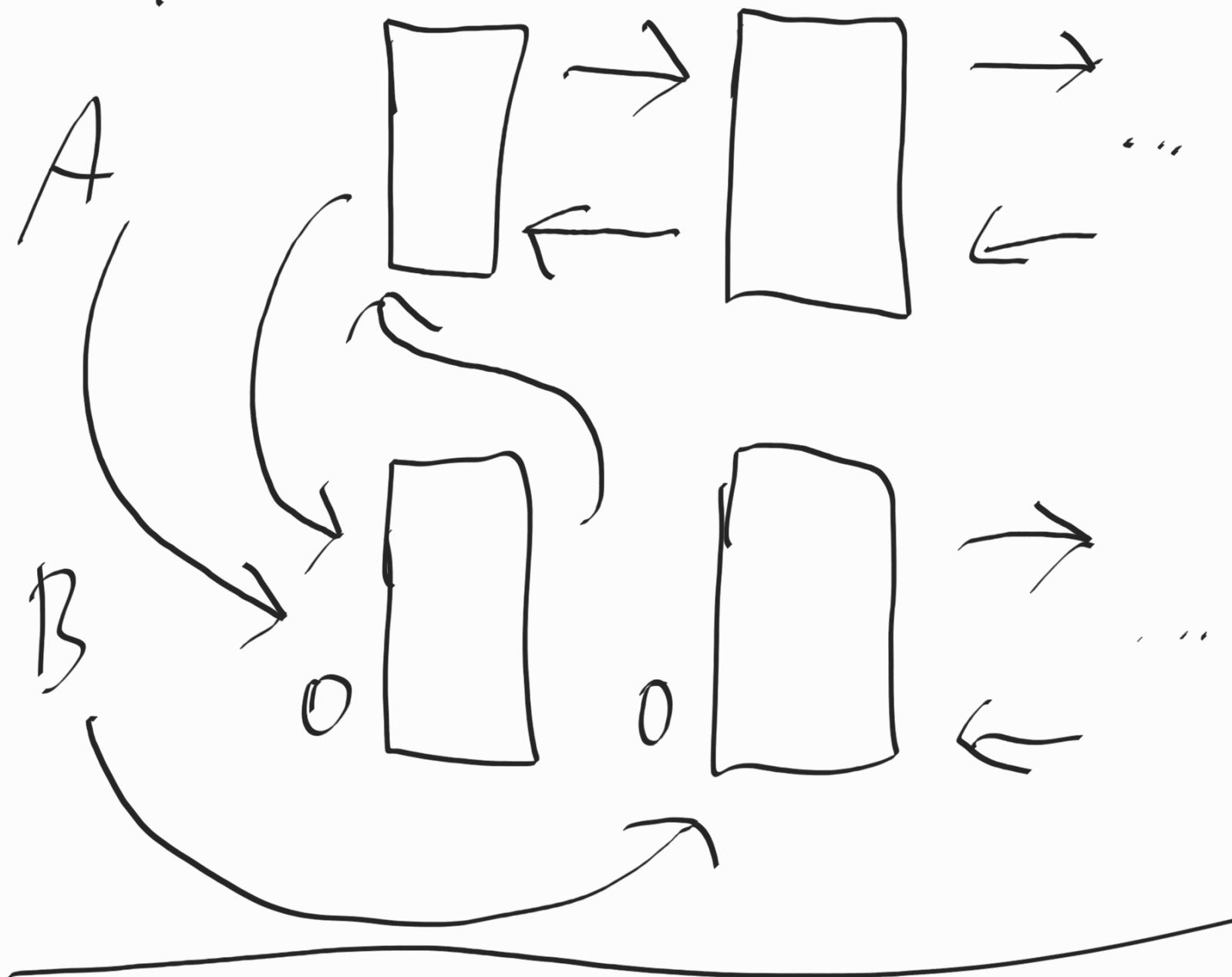
4 4 6 6 5

5 6 4 5 6

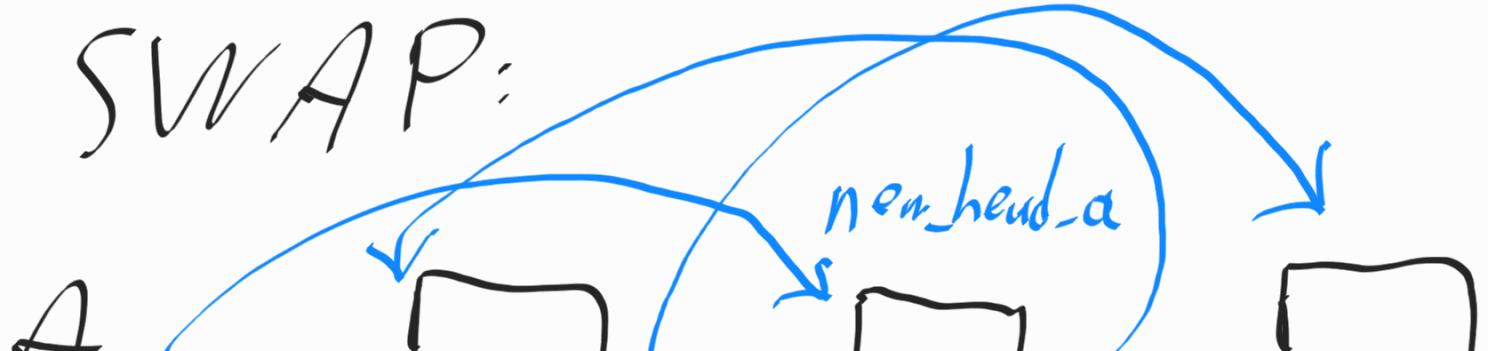
7

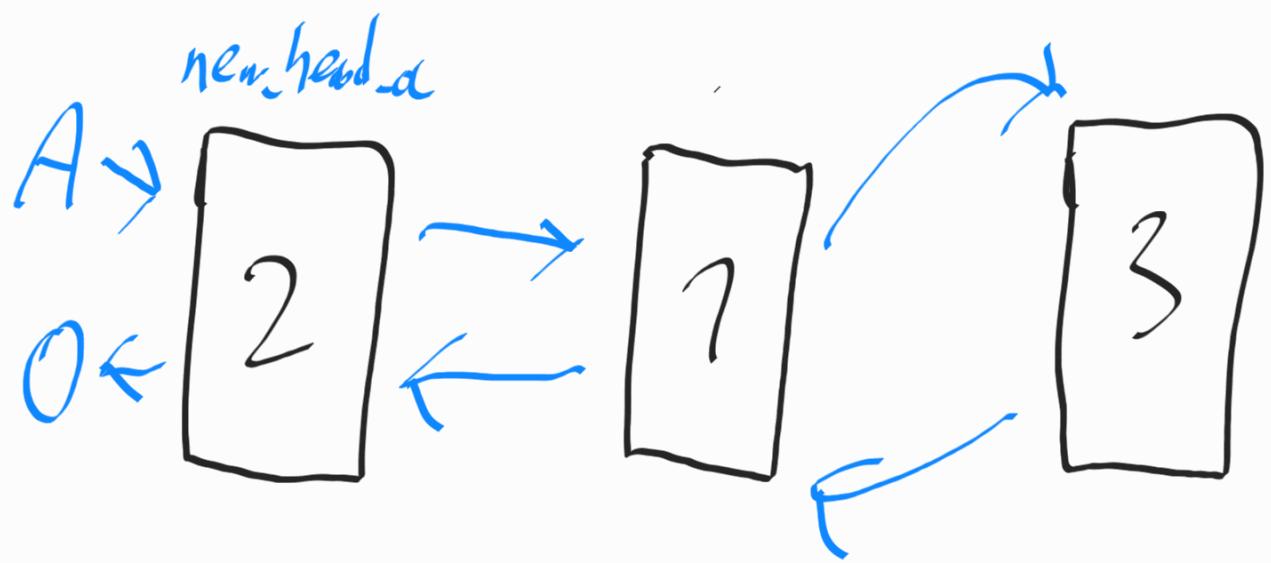
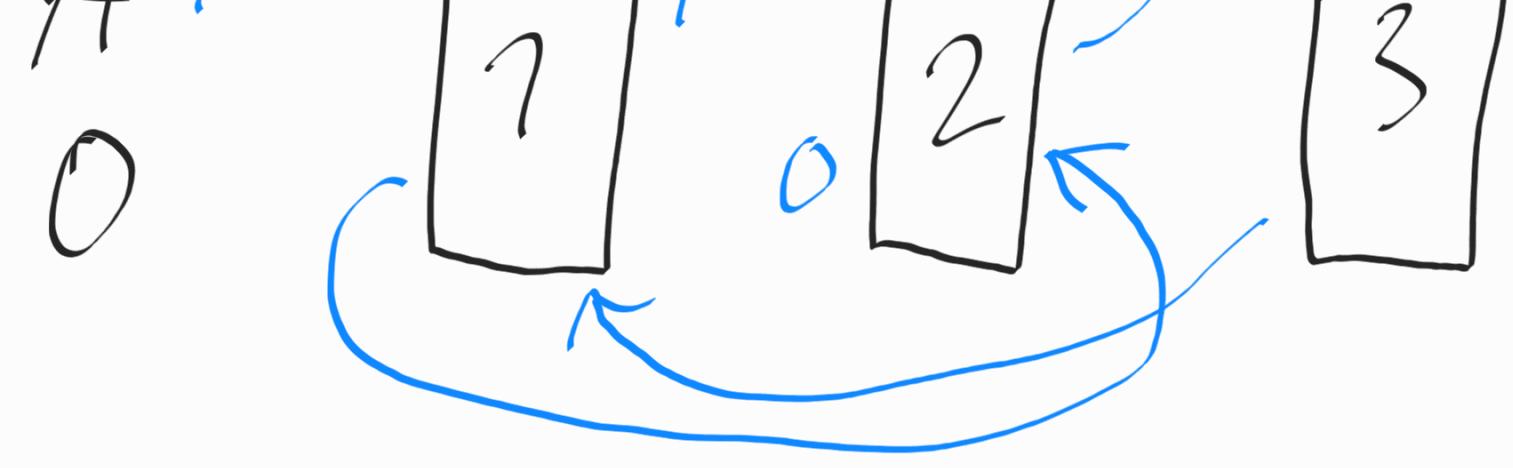
8
9

PUSH:

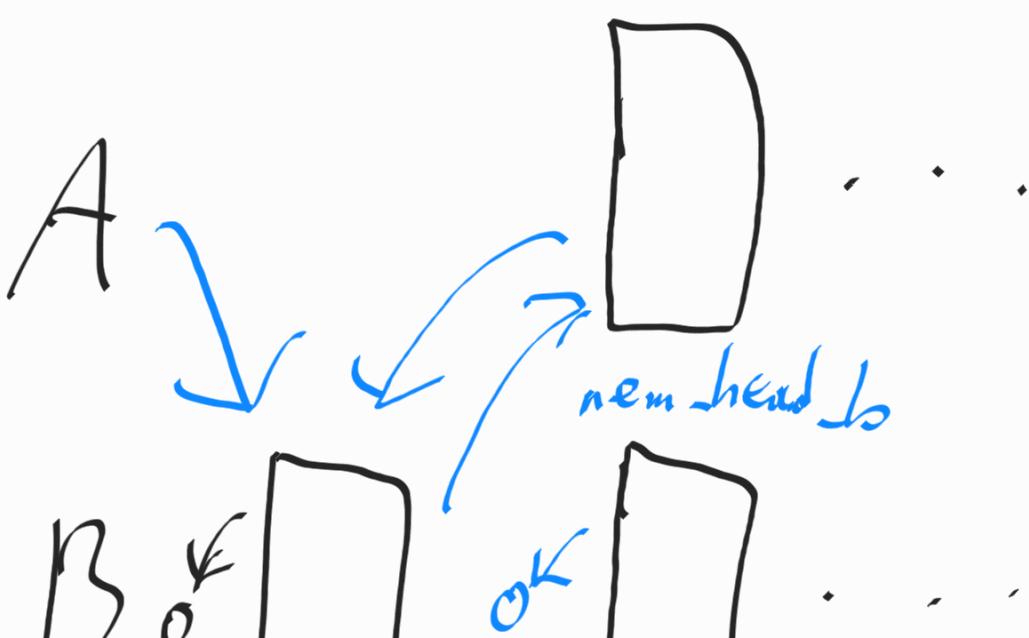


SWAP:

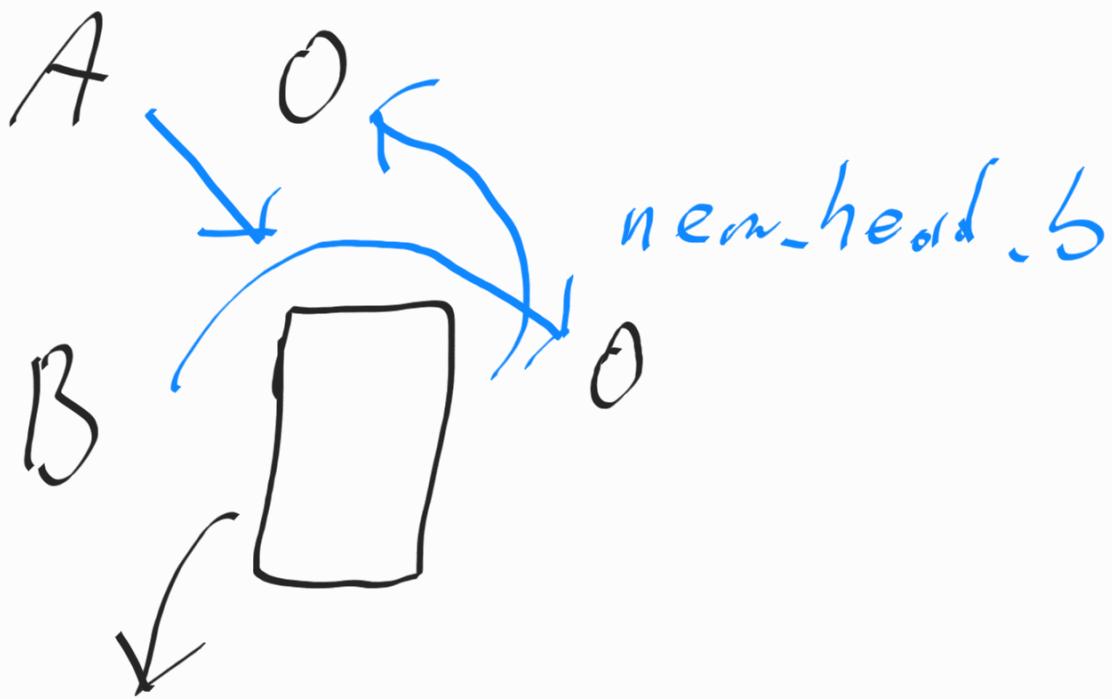
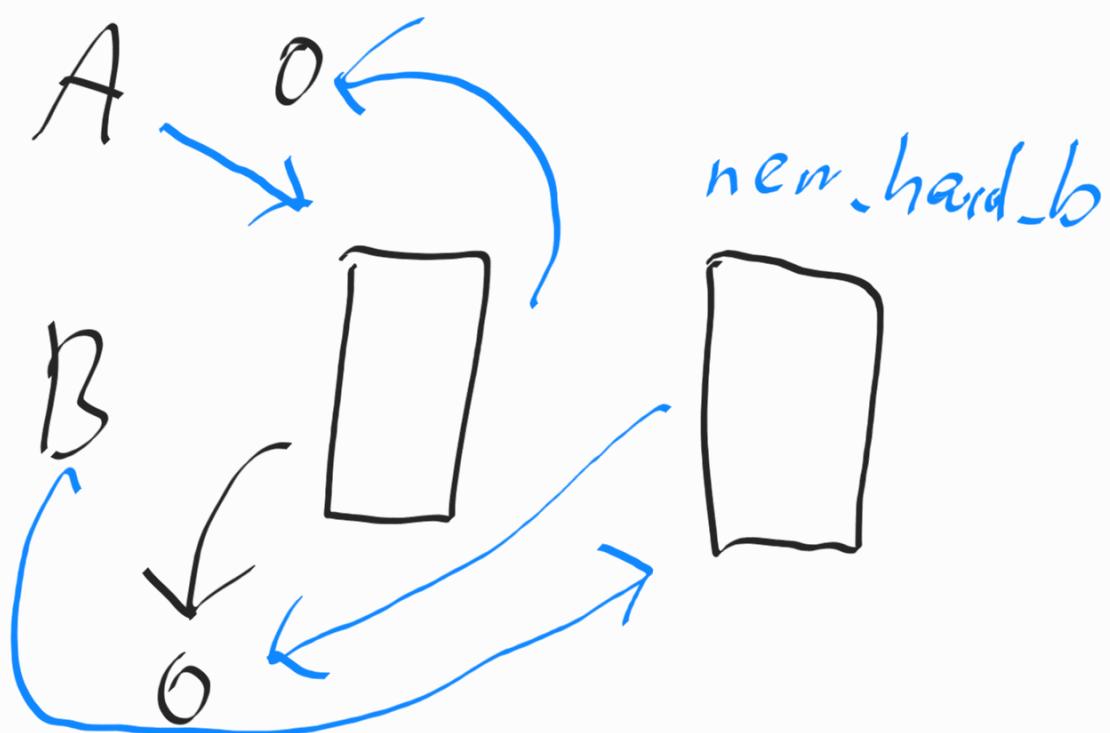




PUSH:

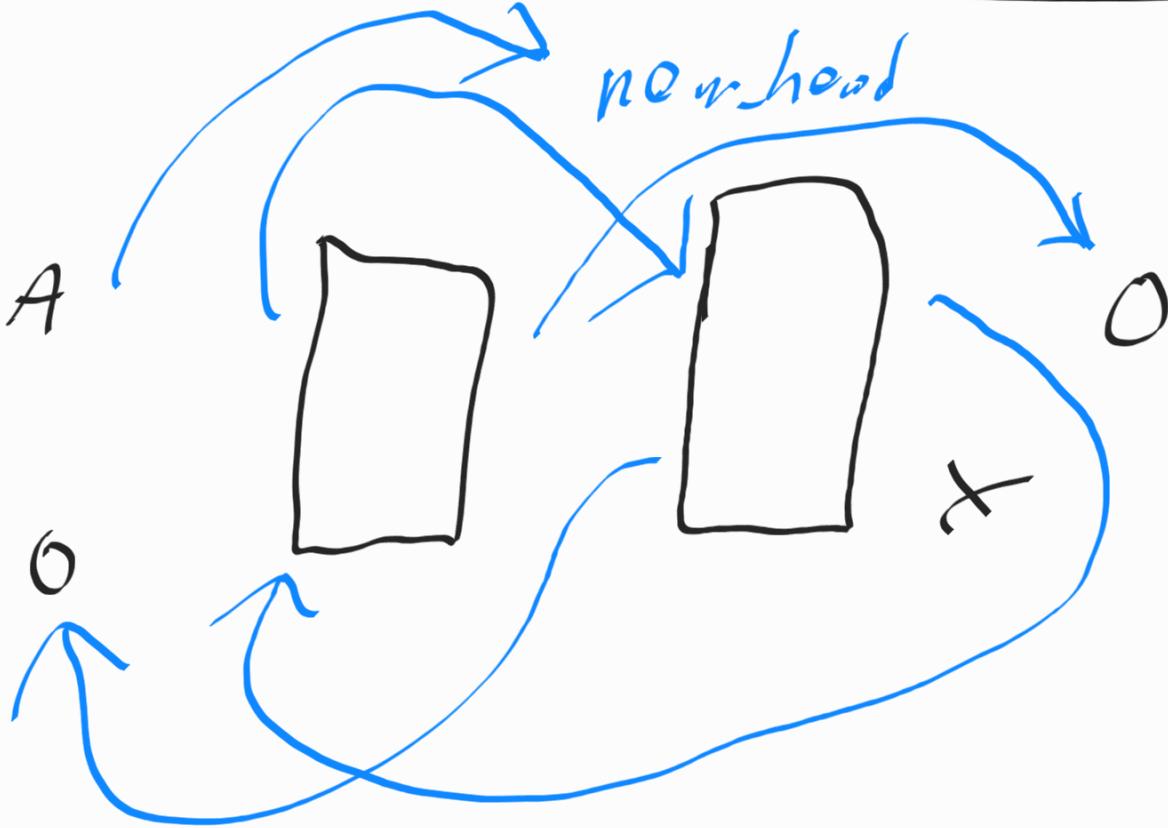
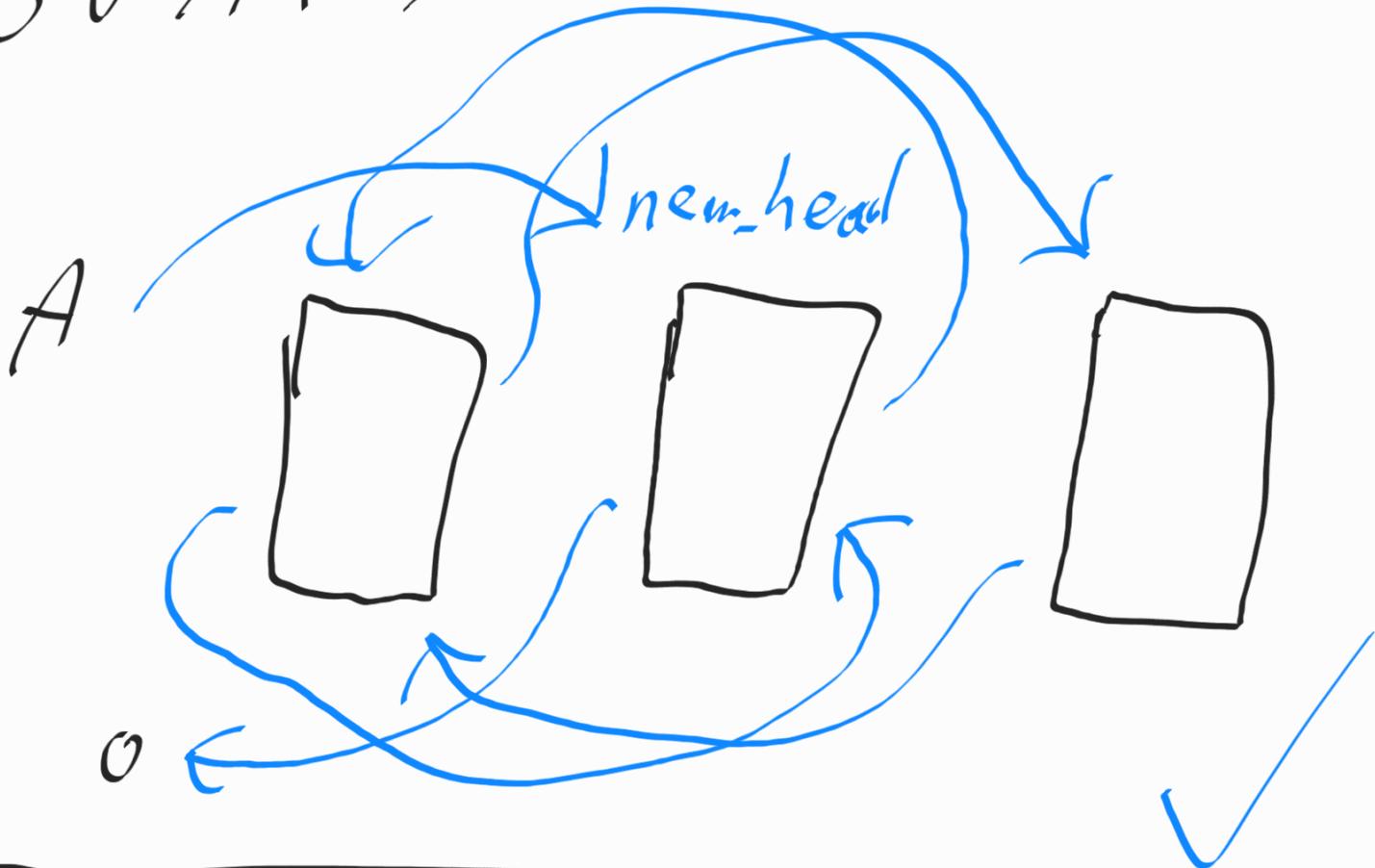


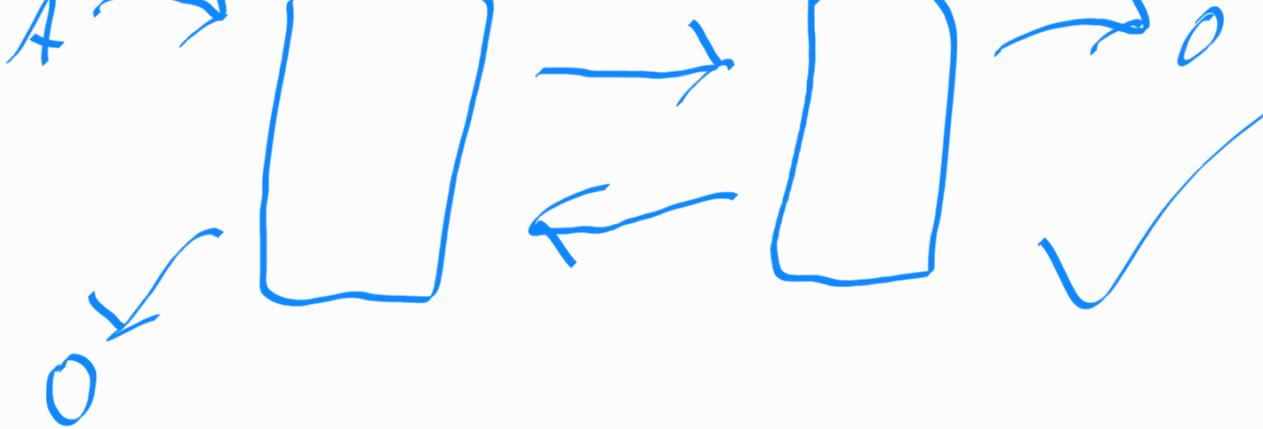
dd-head_a



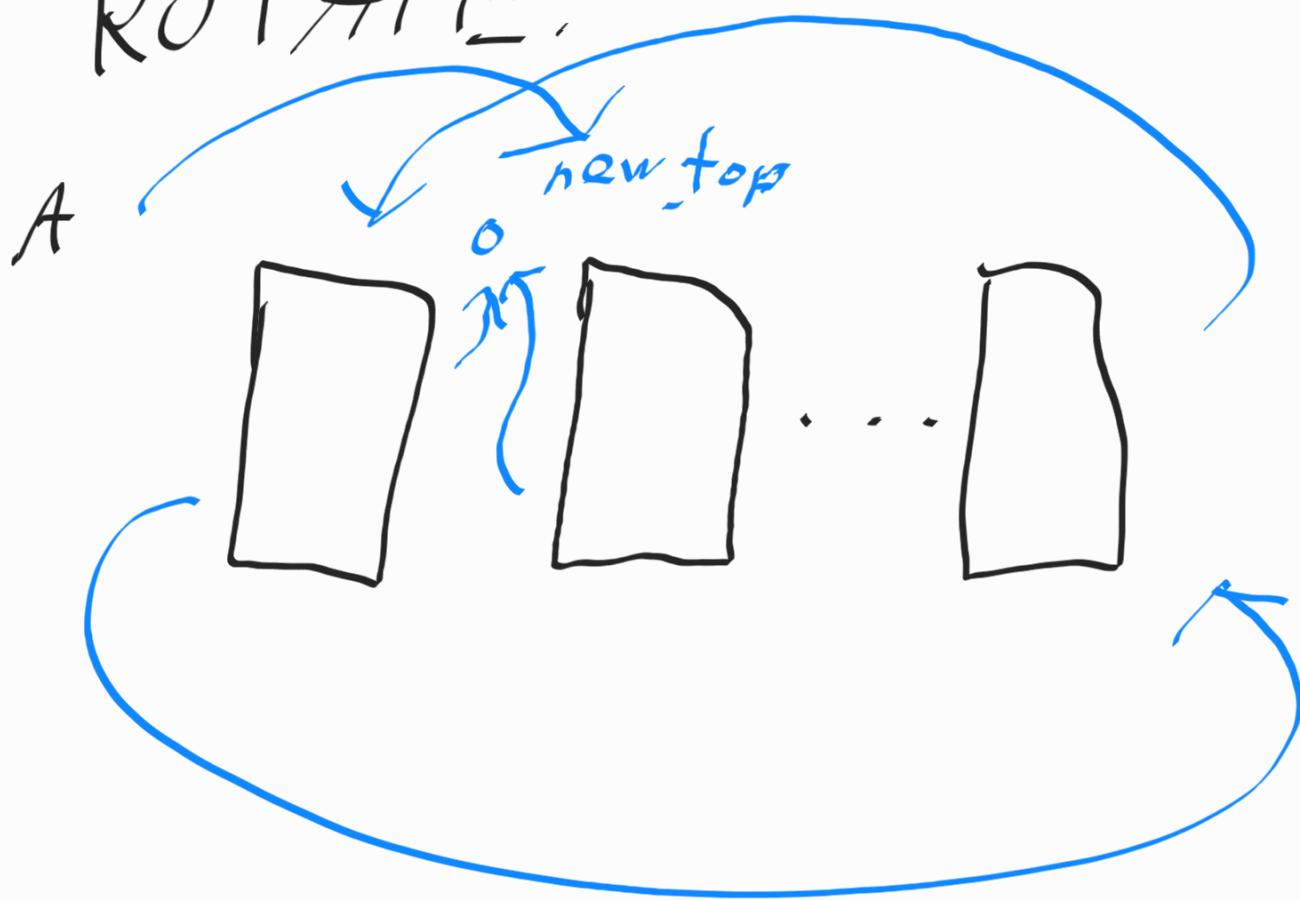
0

SWAP:

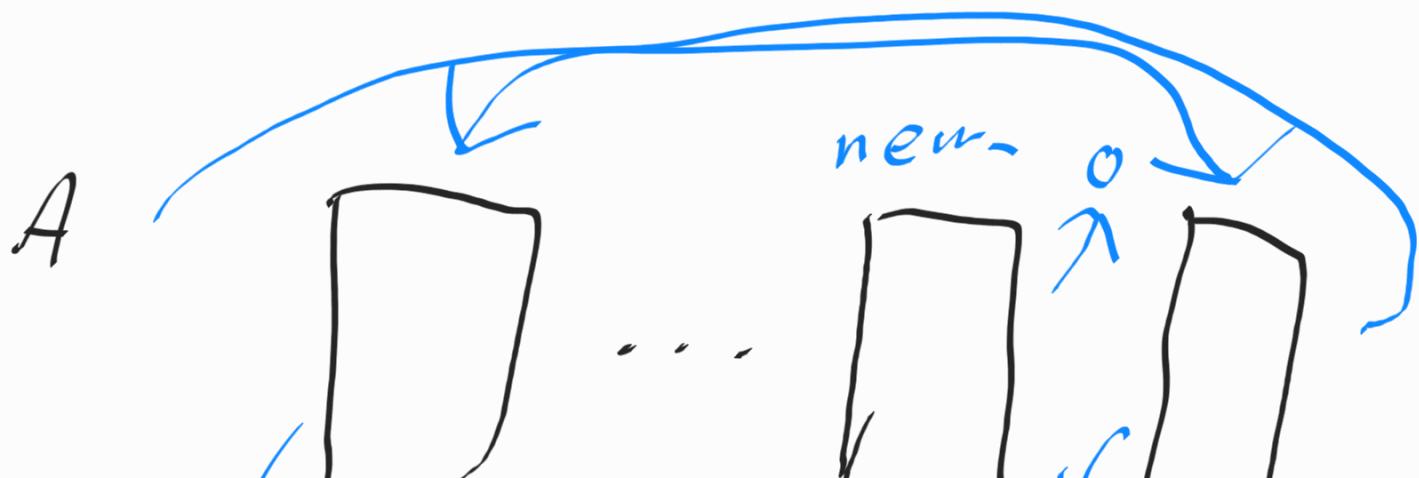




ROTATE:



REV_ROTATE:



A

30x129
w=58

B



• 4 • 6 5 5 • 4

• 4 • 4 • 6 • 6
6 5.6 4 5

8

1

$O(n \log n)$

8
 $\log n$
 $x d.$
8
8
8

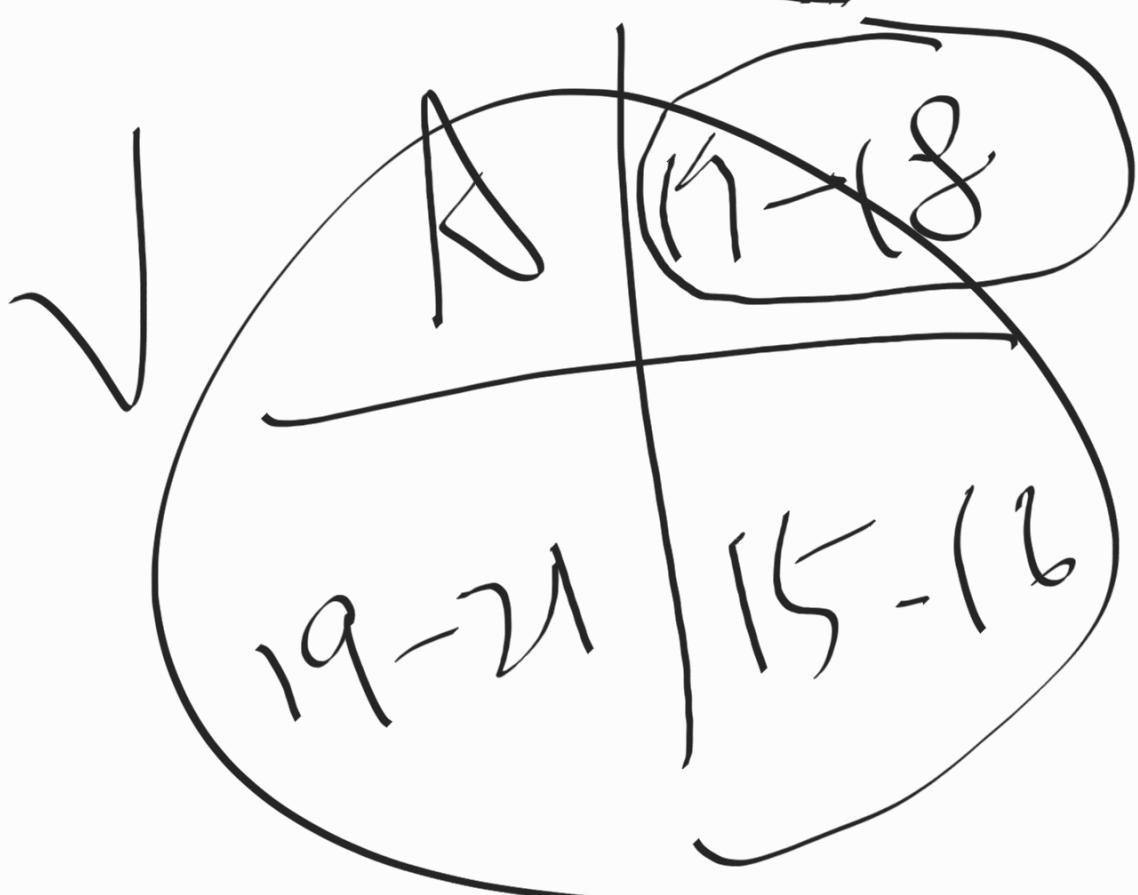
2

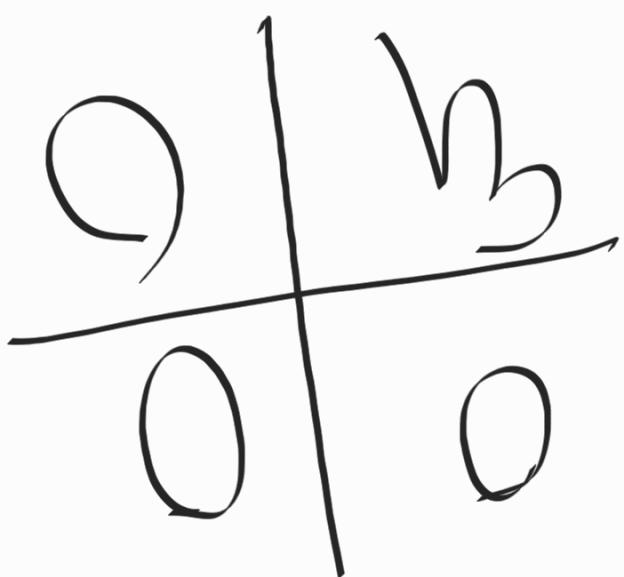
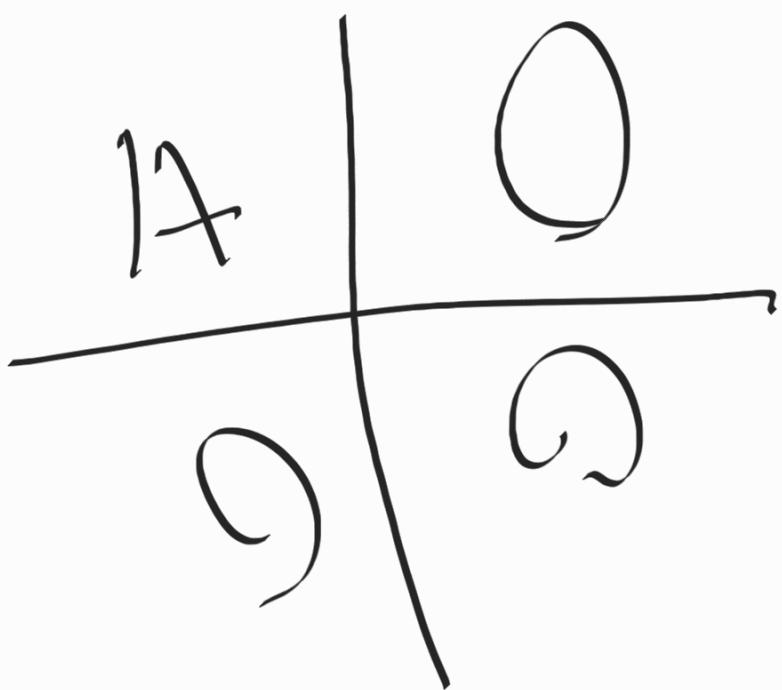
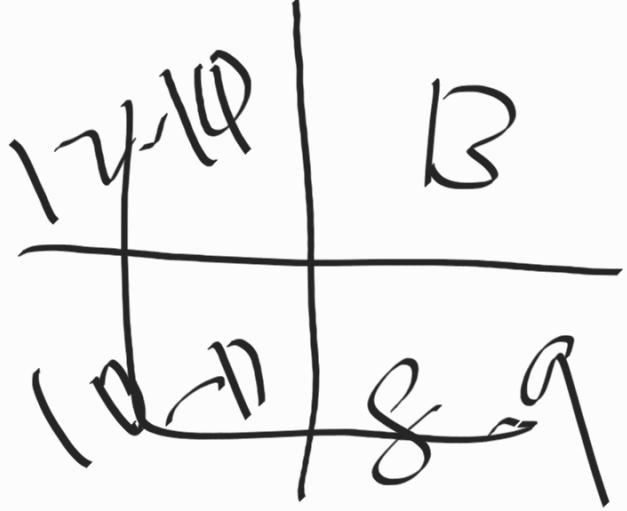
$$\frac{500}{3} \times \log_3 500 + 8 - 15 = 8.14$$

A

15-16 (-)

Null = ~~(void *) 0~~





0 0
—
0 C

0 9
—
10 0

25

8 8 9

223 333

223

6 4 4 4

4
 5 5 5 6 6
 6 6 6 5 5
 —————
 4 5 5 6 6
 6 6 4 4 5
 5 4 6 5 4
 ↑ ↑

30 numbers:

1-30

A	11-20
21-30	1-10

21-30

A	24-26
27-30	21-23

27-30

A	28
29-30	27

11-20 17-20

17-20	B
14-16	11-13

A | 19-20

18	17
----	----

1-10

7-10

$$\begin{array}{c|c} 7-10 & 4-6 \\ \hline 7-3 & \beta \end{array}$$

$$\begin{array}{c|c} A & 9-10 \\ \hline 8 & 7 \end{array}$$

want have LAST TARGET MAKE GOALS

x	x	debug	debug
✓	✓	debug	-
(✓)	X	-	debug
x	x	-	-

$$24 \begin{array}{c|c} A & 8 \\ \hline 8 & 8 \end{array}$$

need to remember blocksize for longer! otherwise the separation is not correct - or I need to know the protocol all the time anew and adjusted locally

?	2	3	4	5	i
?	2	3	4	5	
-	-	-	-	-	

1	2	3	4	5
---	---	---	---	---

index

0	1	2	3	4	
j++					$\dots (len-1)$

I did this bc it's easier to sort

A	2	A	3	3 (B)	3 2	3 2
13	1	2	1	2 1	1 B	A 1
13	1					

~~A 2~~

~~3 1~~

~~1 2~~

~~3 1~~

~~1 3~~

~~23 10 27 25~~ Fixed

Area

Optimization for small amount

A	B	AB	AB	AB	AB	AB	AB
1							1
5	5	2				2	2
2	2	4	4	3	3	3	
4	4	3	3	2	4	4	4
3	3	1	5	1	5	1	5

1. $pb \rightarrow 2$, $ra \rightarrow 3$, $ph \rightarrow 4$, $sa \rightarrow 5$, $pa \rightarrow 6$, pa

1	2	1	4
5	4	2	3
2	1	3	2
4	5	4	5
3	3	5	7
1111	1111	1111	↑ $9! = 7$

5 2
4 7
3

4
5
3

p α , r α , p b , r α , r α

2 1
7 2
3 3 2 7
3 7 2
3 3

2 1 3 3
1 2 2 1 2
3 1 3 1 2
 χ 3 χ 2 7

5	5	4	
5	4	4	5

5	5	4	
5	4	4	5

4	5	5	6
6	4	6	4
5	6	4	5

4	5	5	6
6	4	6	4
5	6	4	5

5	4	4	4
6	6	6	5

5

4	5	5	6
6	4	6	4
5	6	4	5

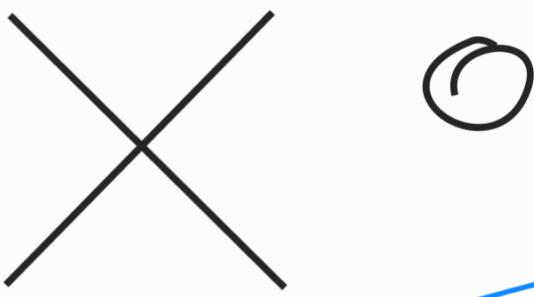
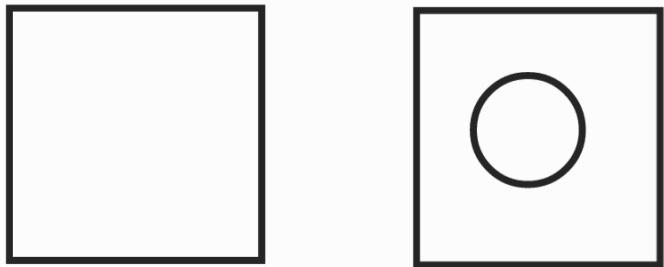
6

4	5	5	6	6
6	4	6	4	5
5	6	4	5	4

1				
7	2	2	3	3
7	7	7	7	7

3 1 3 1 2
2 3 1 2 1

EVACUATIONS



HEAD

new-top

