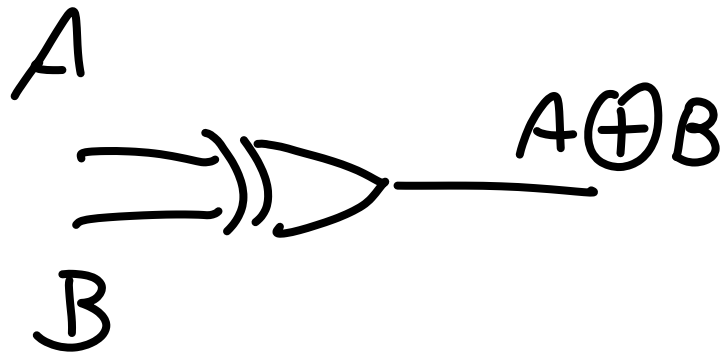


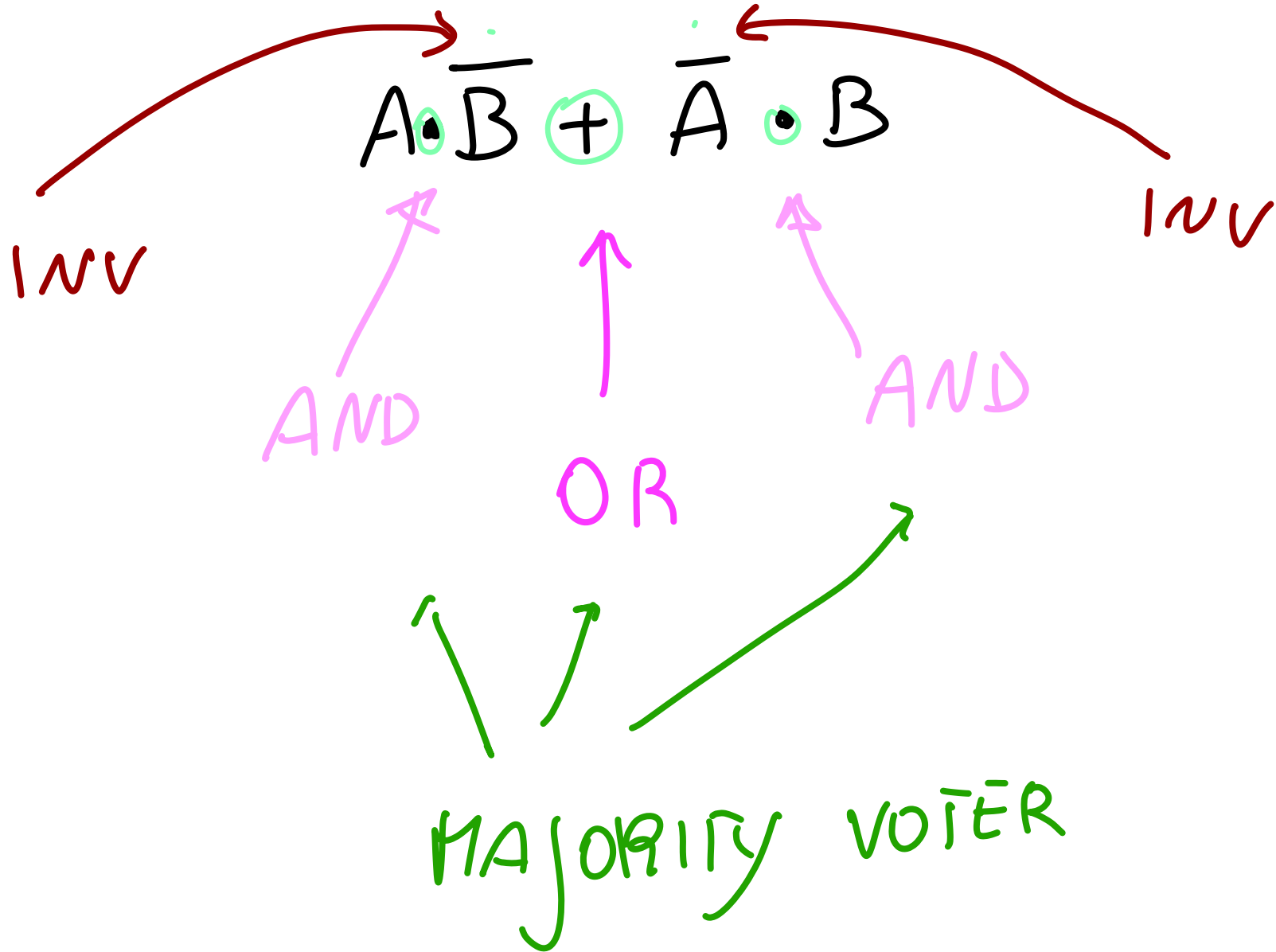
EXERCISE

EXAMPLE OF A GATE

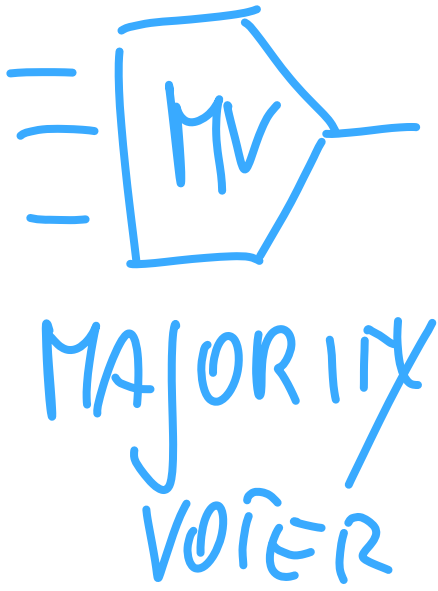
XOR



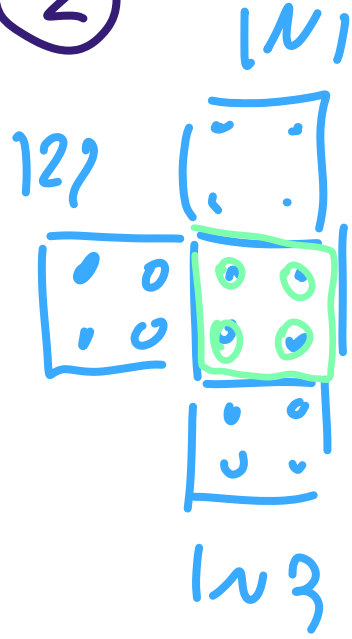
XOR



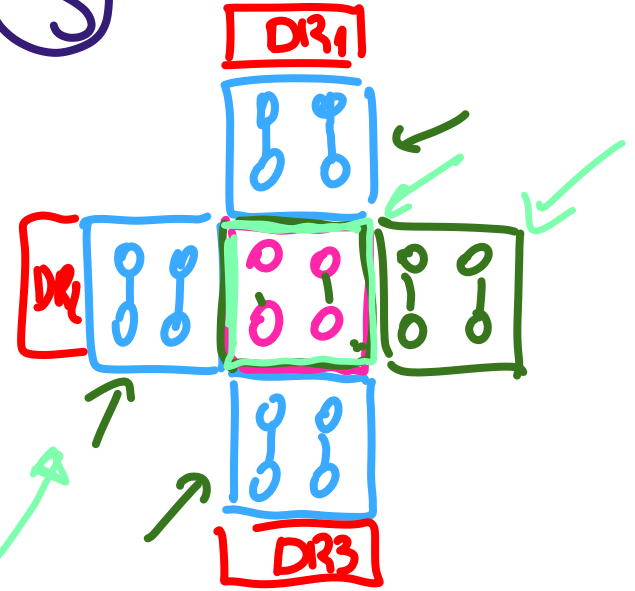
①



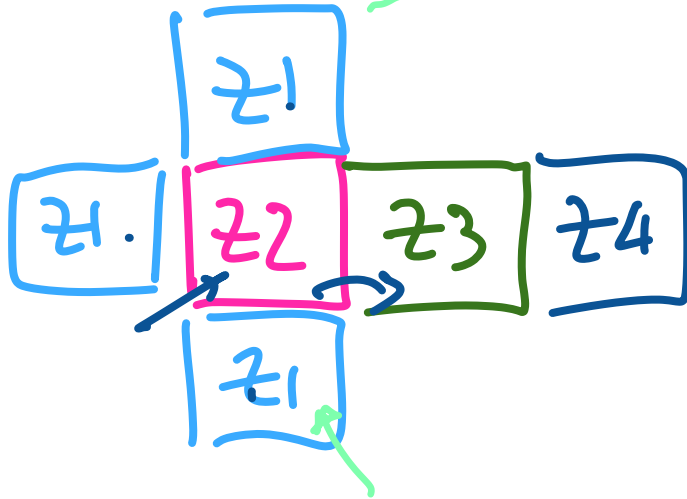
②



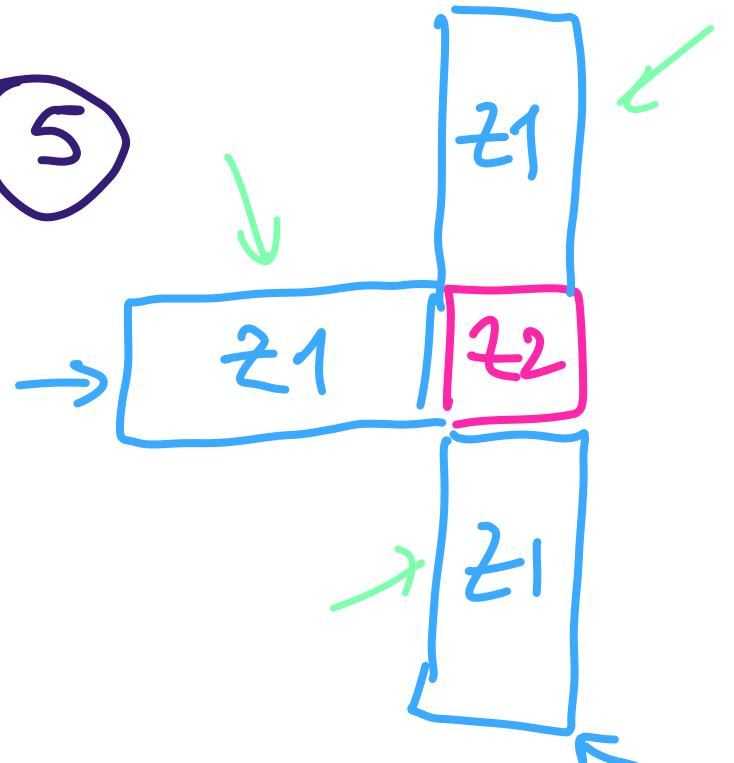
③

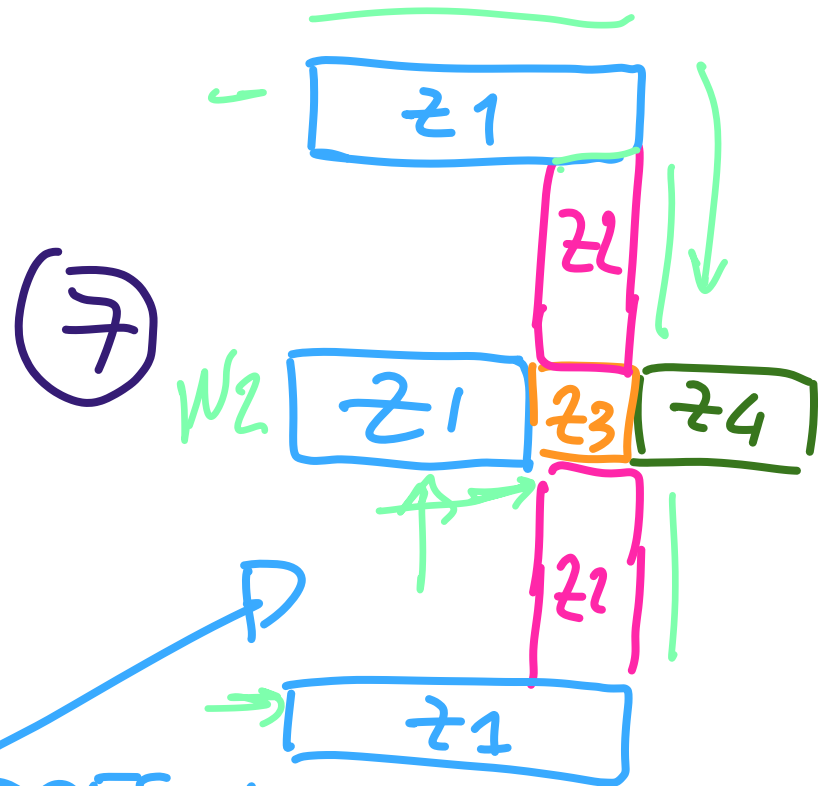
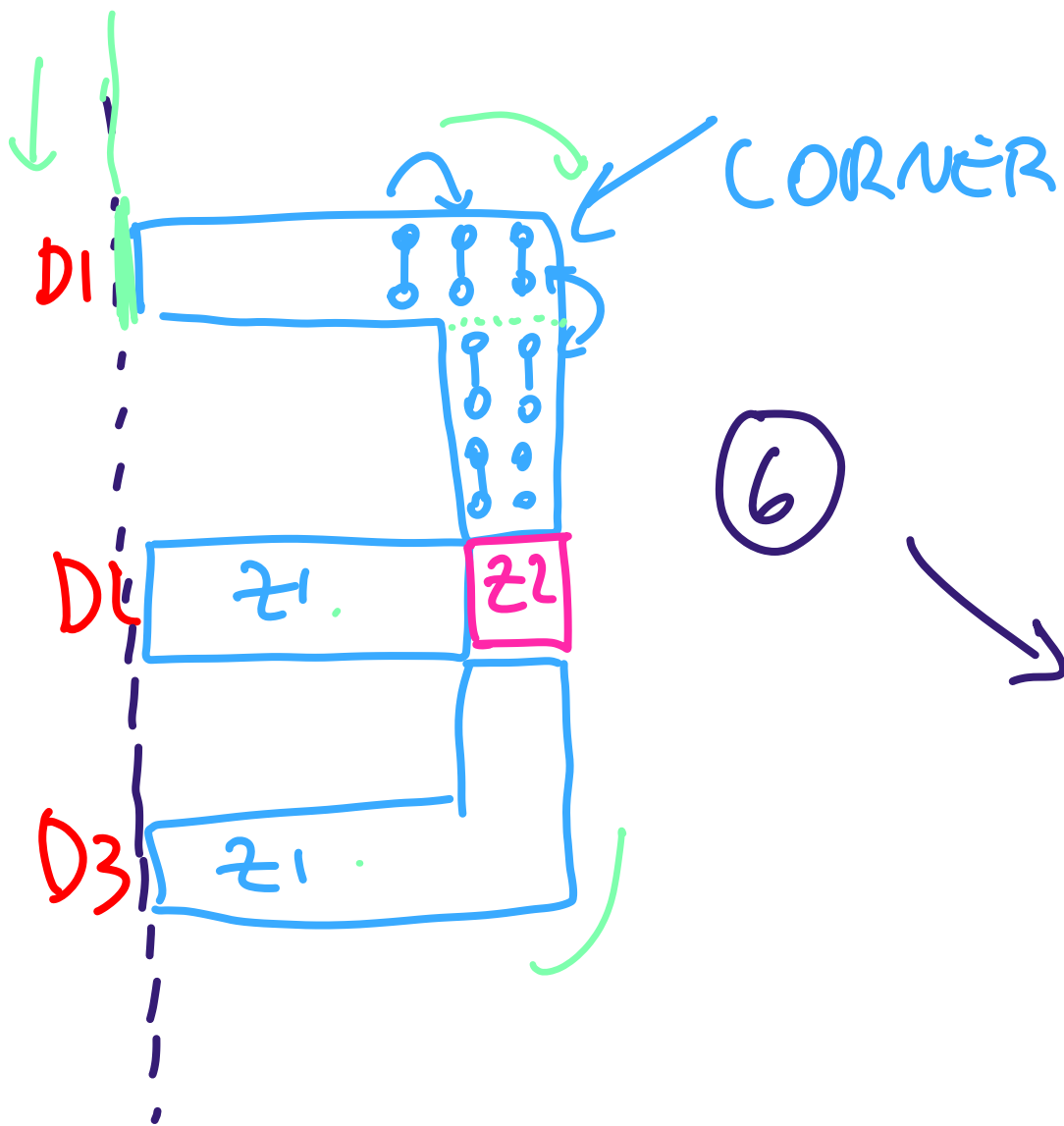


④



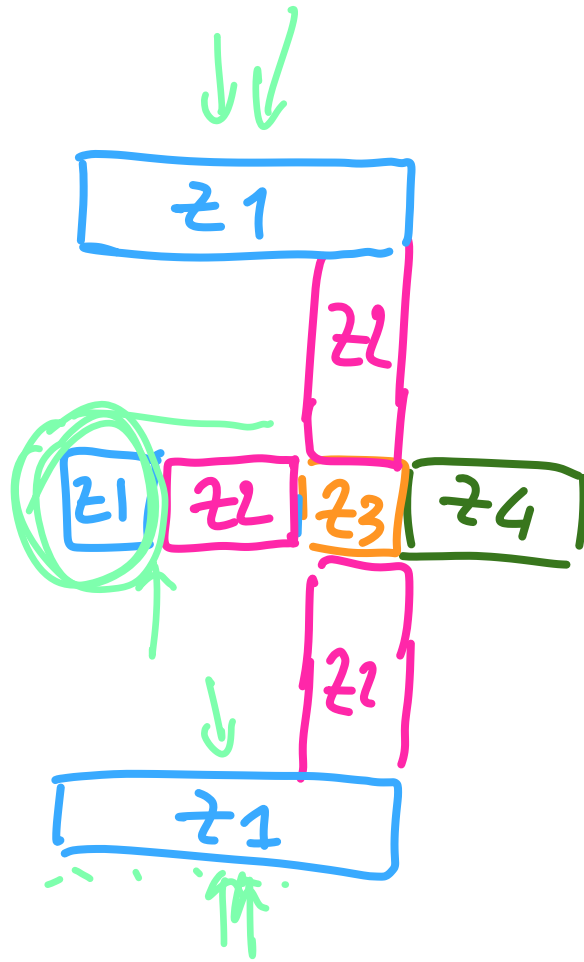
⑤





! DOES NOT WORK!
 ↑

8



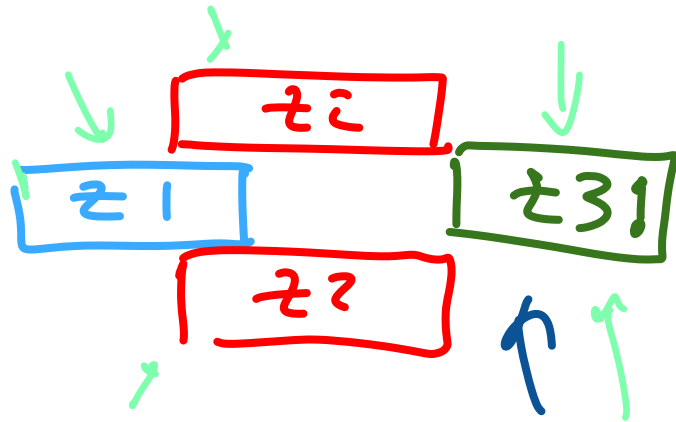
THE SAME N. OF UR.
ZONES FROM
INPUT
↓
SKEWING!

LAYOUT = TIMING

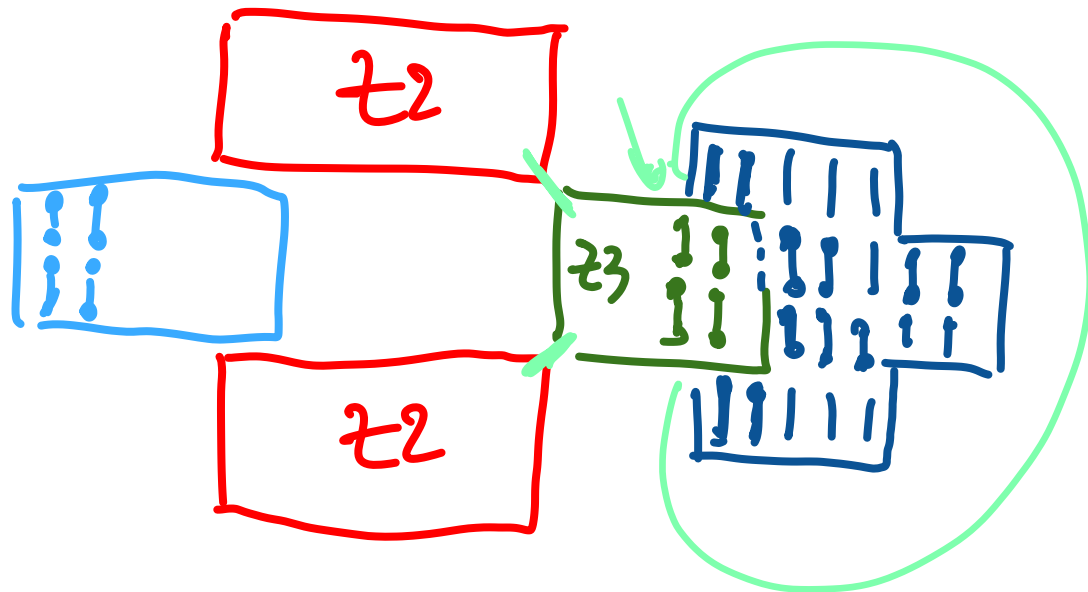
↻

INVERTER

9



↓ HERE THE BUS HELPS!

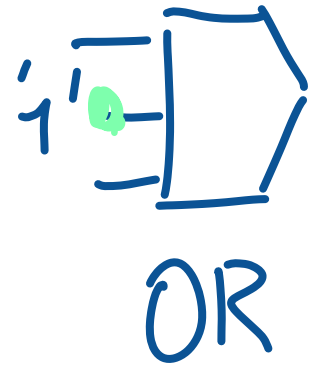
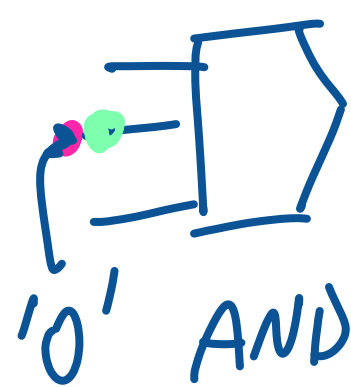
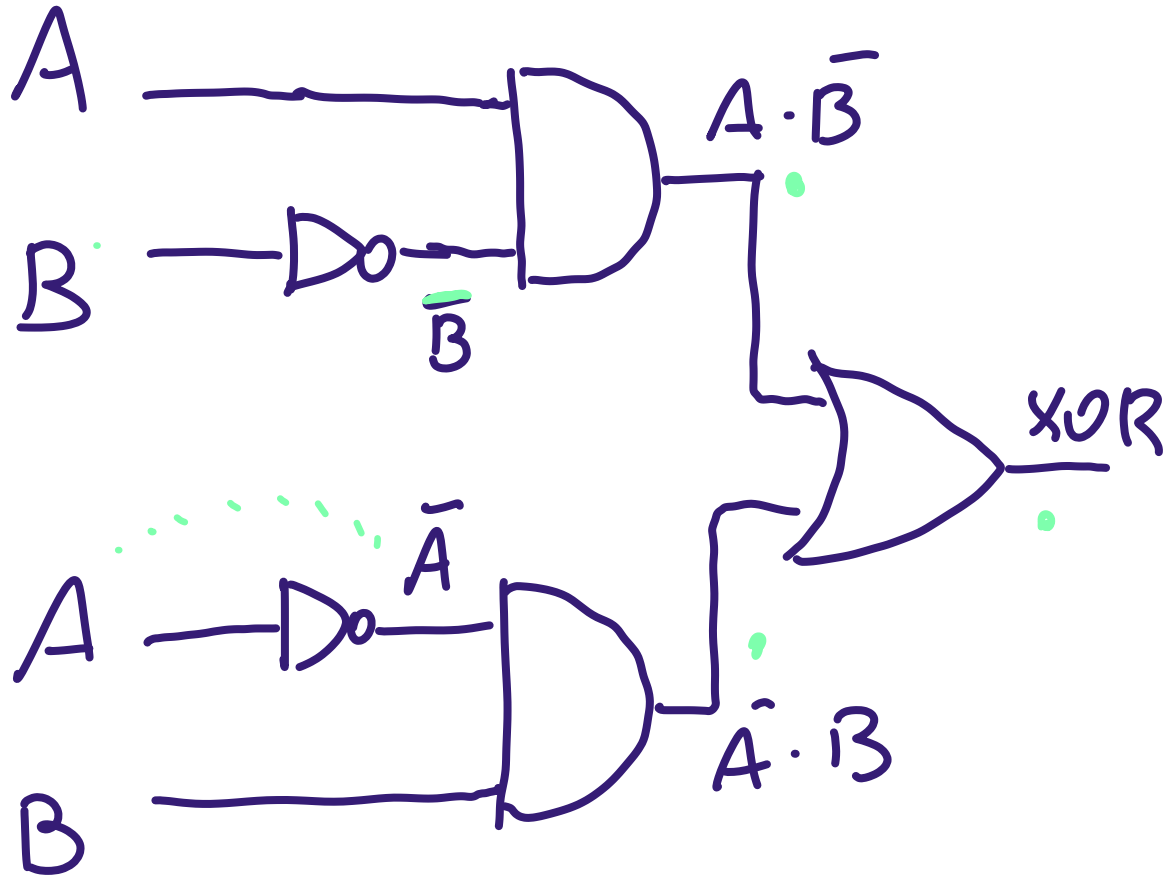


10

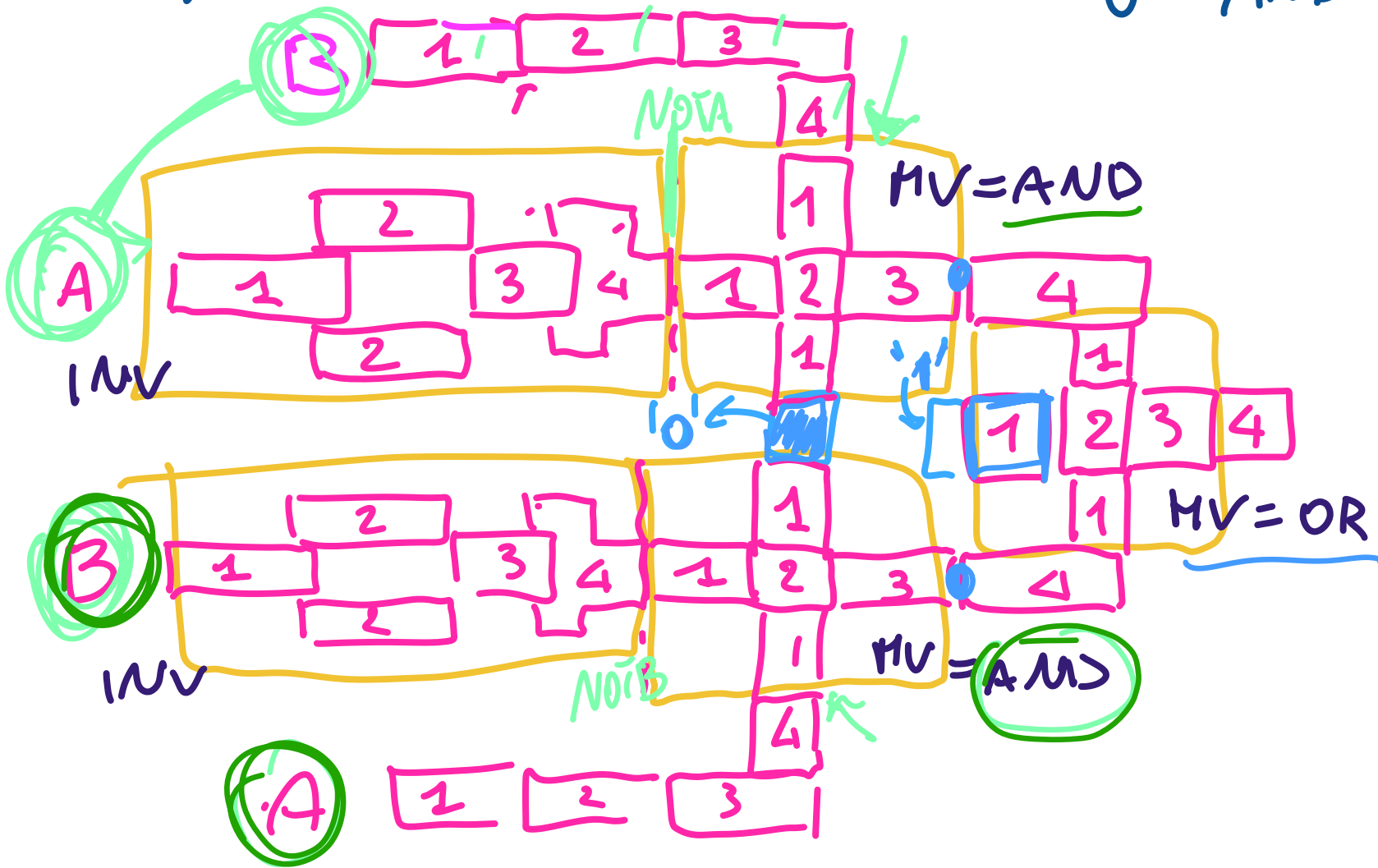
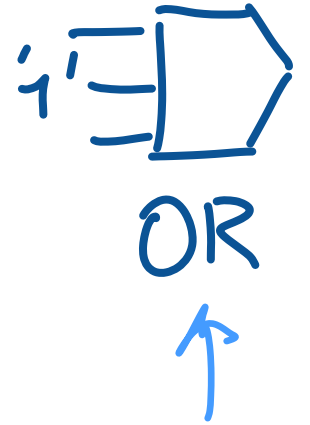
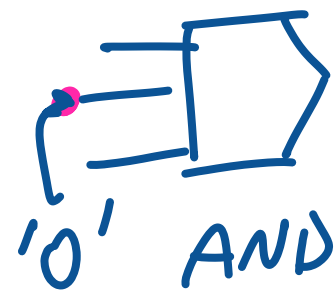
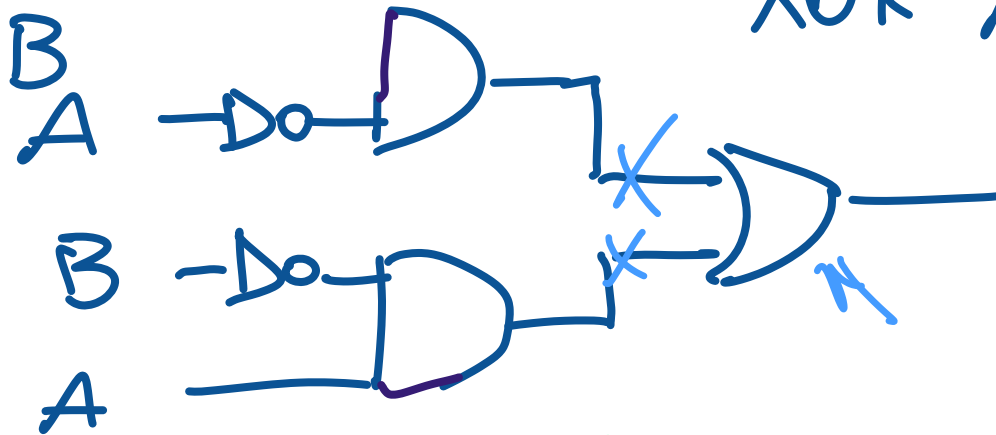
SAFER

XOR

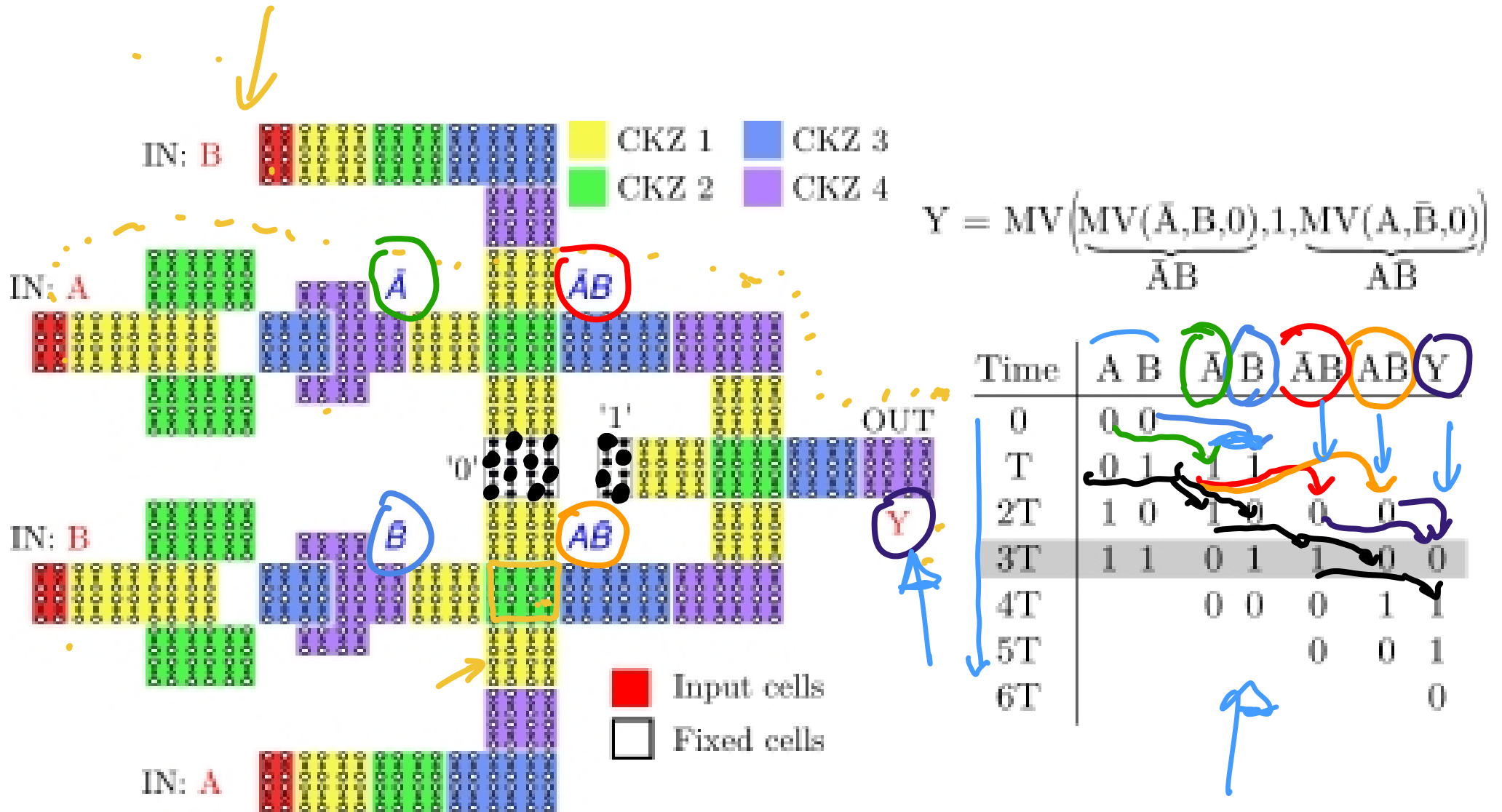
$$A \cdot \bar{B} + \bar{A} \cdot B$$



$$\text{XOR } A\bar{B} + \bar{A} \cdot B$$



XOR - BUS OF 2KOL



Time	A	B	$\bar{A}B$	$A\bar{B}$	Y
0	0	0	0	0	0
T	0	1	1	0	1
2T	1	0	0	1	1
3T	1	1	0	0	0
4T		0	0	0	0
5T			0	0	0
6T					0

LATENCY

SEE VIDEO

PLA's

HA

FA

OTHER SMALL CIRCUIT