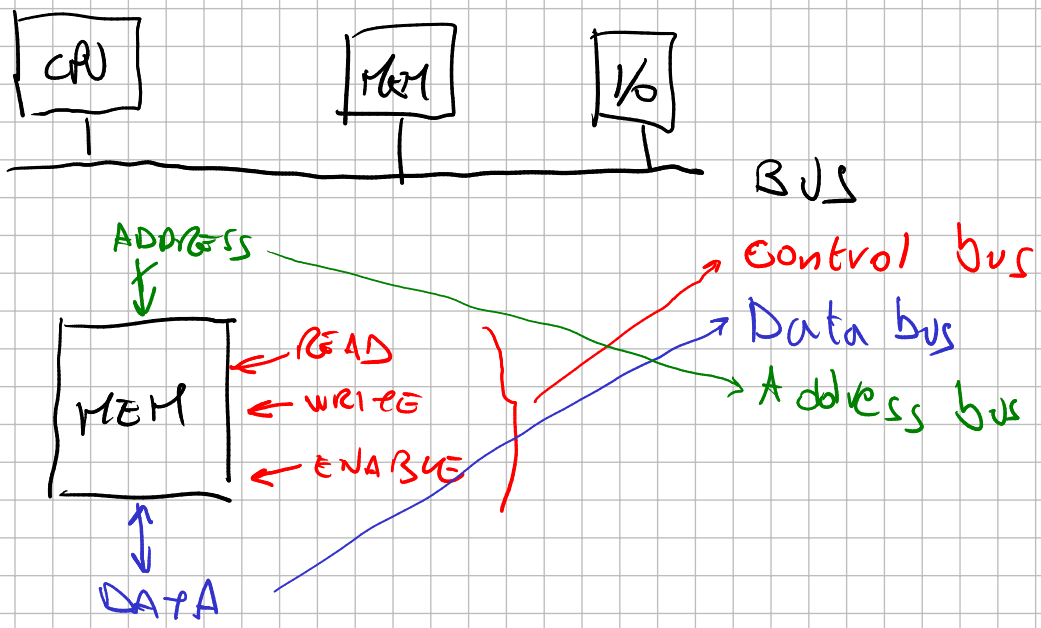
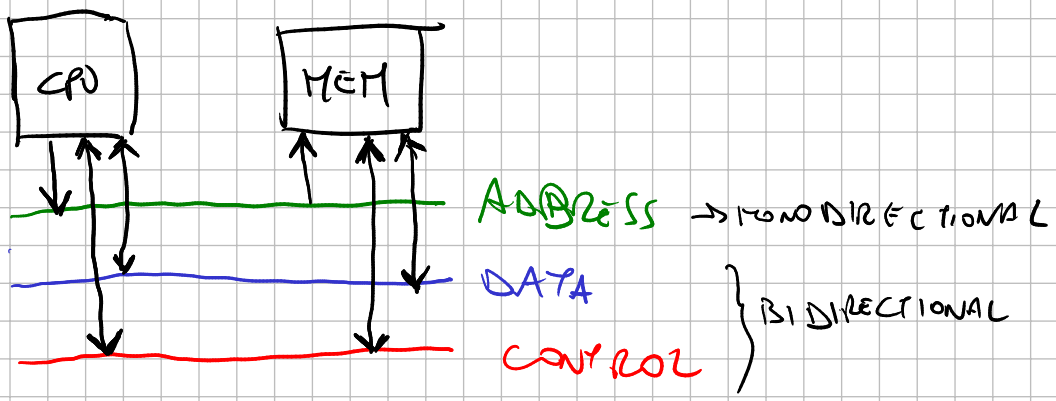
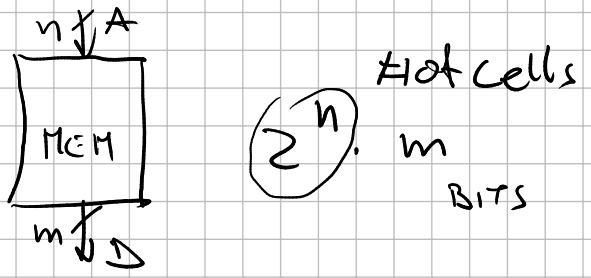
PARALLELISM







8086

- A BUS 20 bits
- D BUS 16 bits
- SHARED based on time

8088

A BUS 20 bits

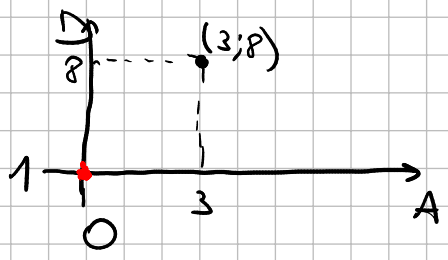
D BUS 8 bits → compatible to older components

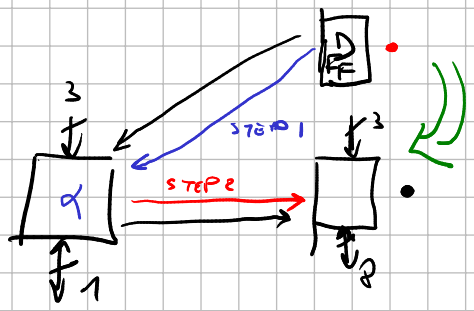
Parallelism <=> Computation!

8086 parallelism: 16 bits

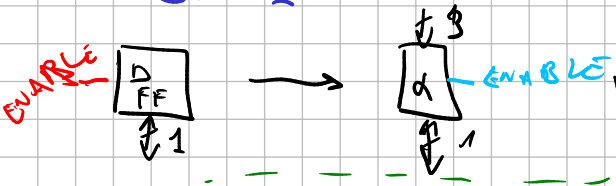
P.C. program counter register — 16 bits in 8086

STATIC MEMORY → LARGE MEMORY DESIGN

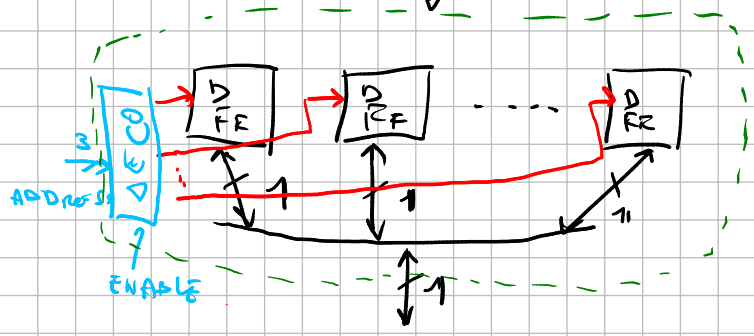




STEP 1

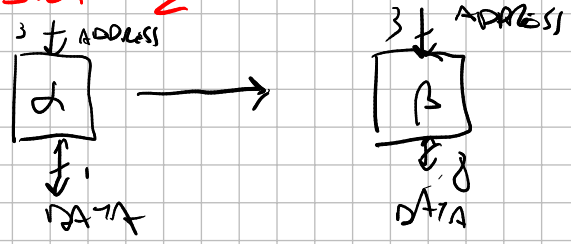


We need 8 DFF

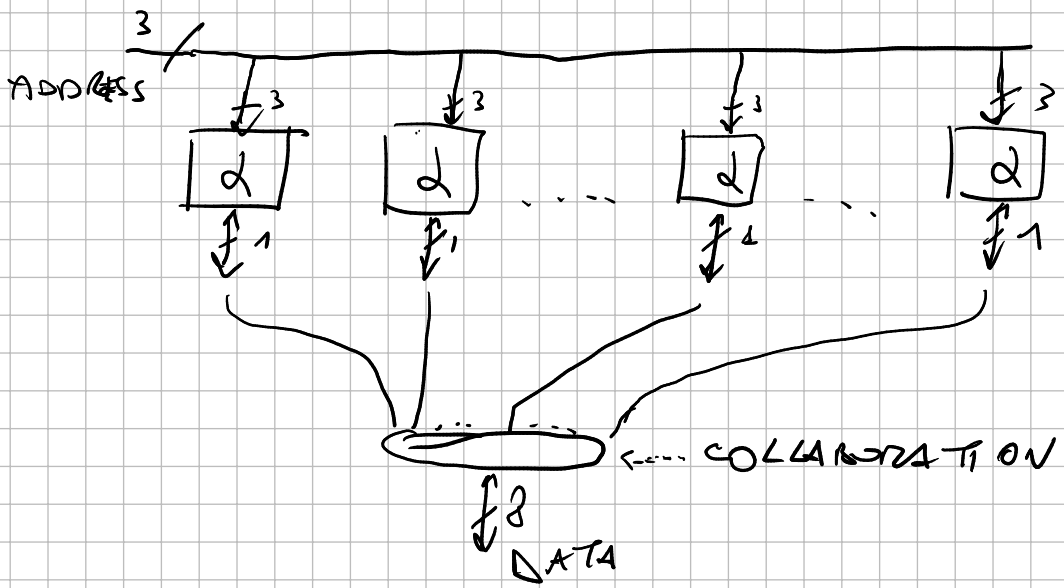


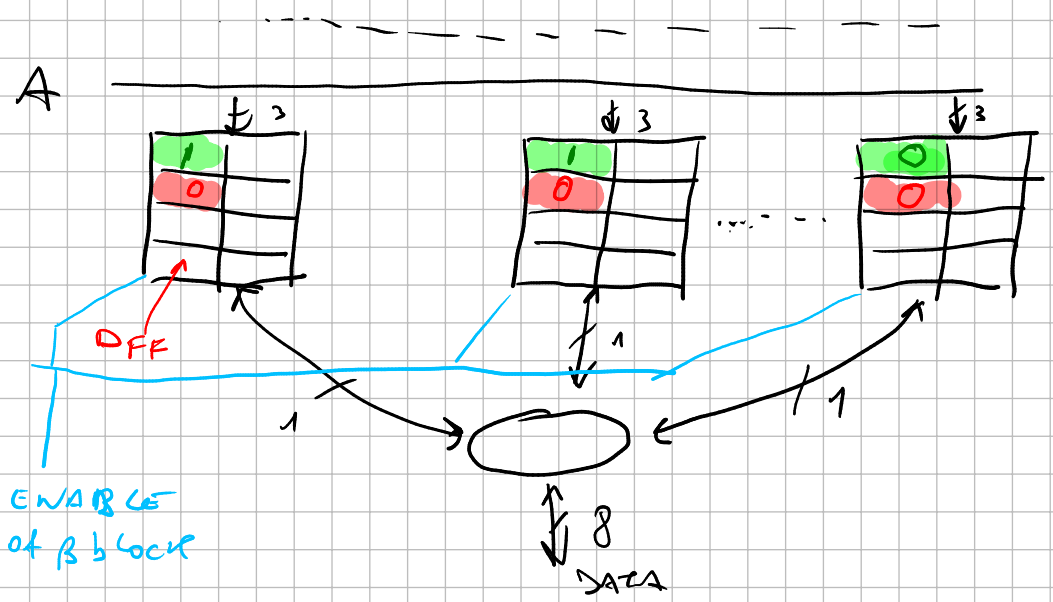
Could use a MUX but it can't be reversed (not bi'directional) OK for READ, but not for WRITE

STEP 2

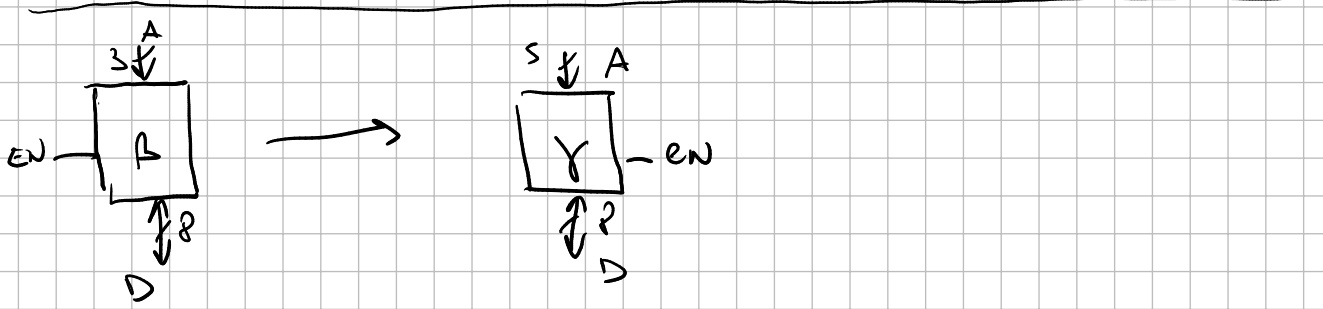


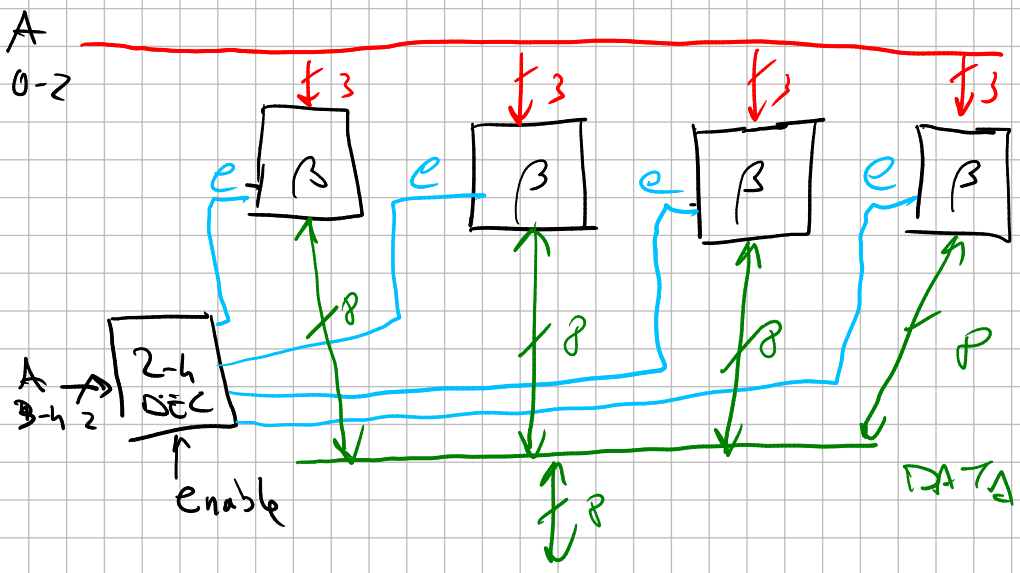
We need 8 α blocks

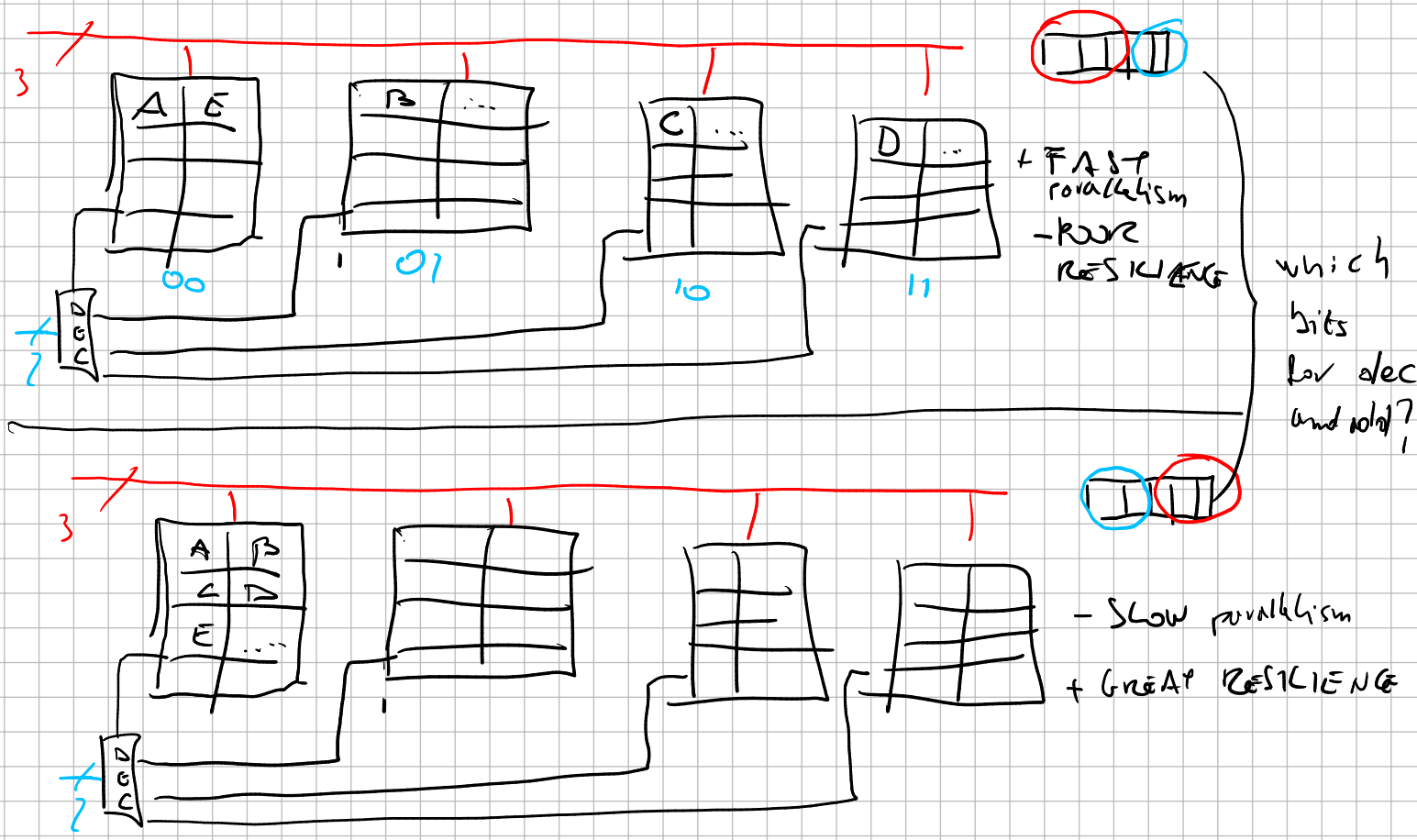




	ADDR	8 BITS
●	0 0 0	1 1 0 0 . . . 0 ●
	0 0 1	0 1 1
●	0 1 0	0 0 . . . . 0 ●

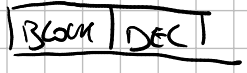


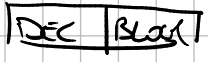


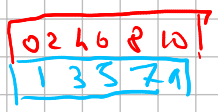


00 000 → A
00 001 → B
00 010 → C
00 011 → D
00 100 → E
... → ...

64 BITS ADDRESS

I CASE 

II CASE 



DOUBLE DATA RATE