

CS 631-01 Static Analysis Circuit

ROM - Instruction Memory

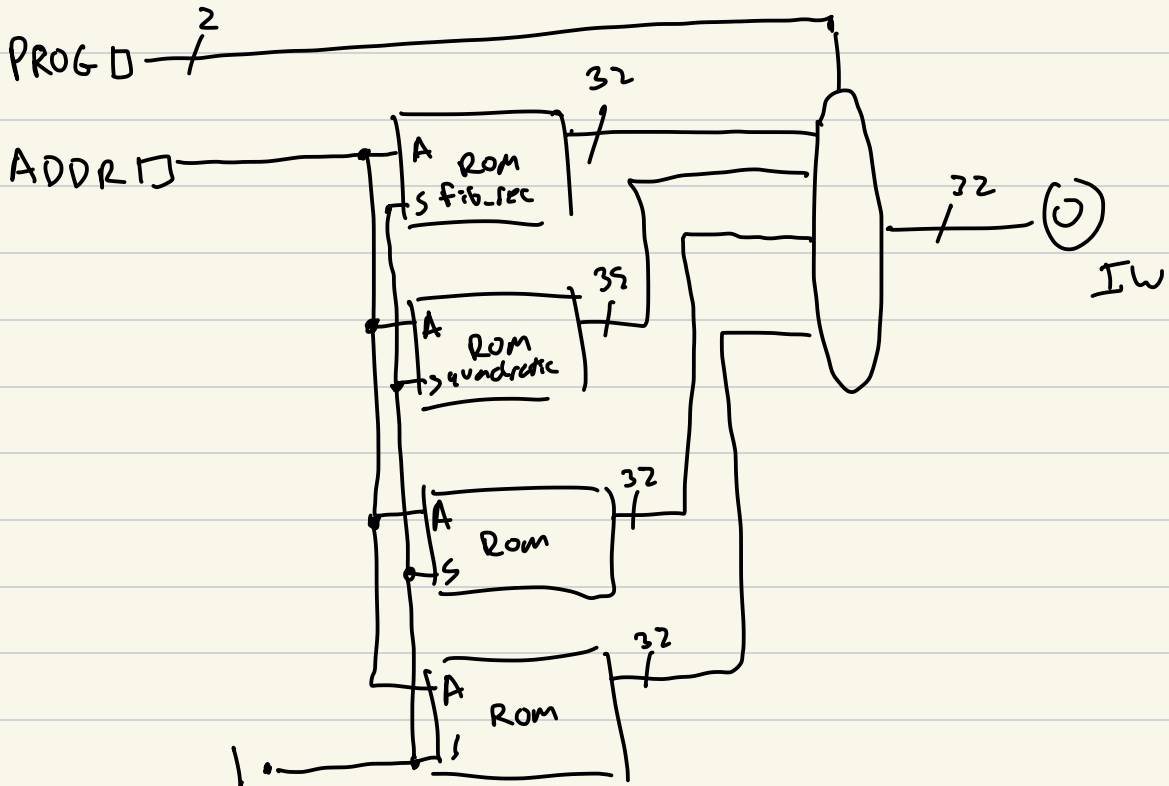
Comparators

Decoder

Priority Encoder

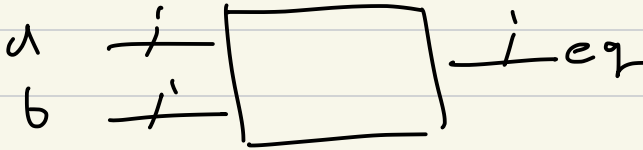
Instruction decoding

Instruction Memory



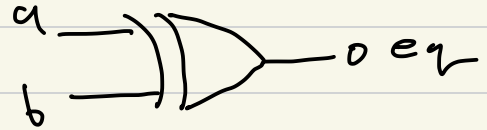
Comparators

1 bit comparator

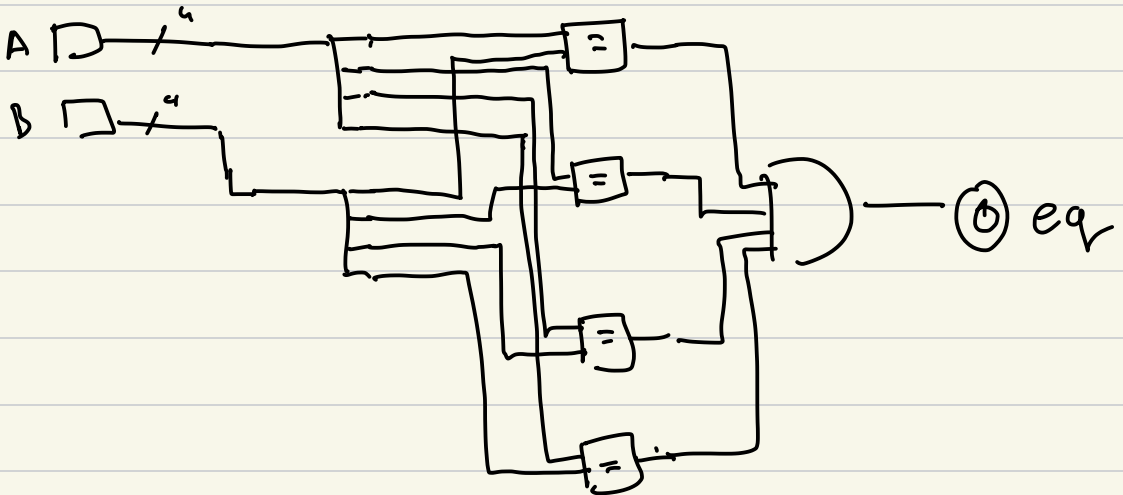


a	b	eq
0	0	1
0	1	0
1	0	0
1	1	1

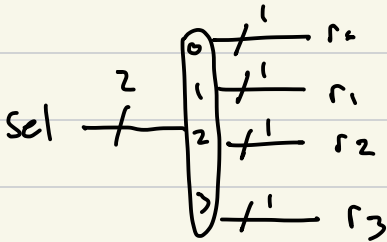
$$a \oplus b$$



4 bit Comparator



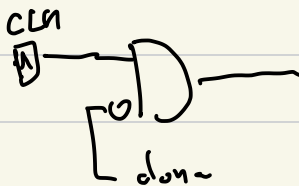
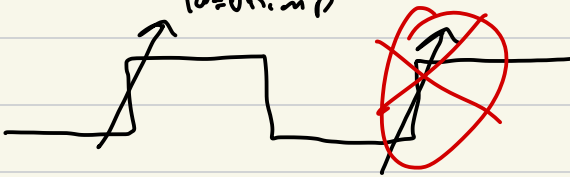
Decoder 2 to 4 Decoder



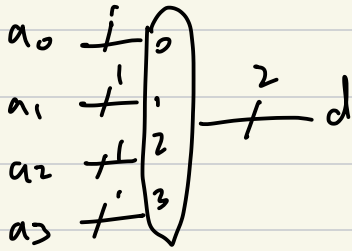
$S_1 S_0$	r_3	r_2	r_1	r_0	
0 0	0	0	0	1	$r_0 = (\bar{S}_1 \cdot \bar{S}_0)$
0 1	0	0	1	0	$r_1 = (\bar{S}_1 \cdot S_0)$
1 0	0	1	0	0	$r_2 = (S_1 \cdot \bar{S}_0)$
1 1	1	0	0	0	$r_3 = (S_1 \cdot S_0)$

count = 7

id = unimp

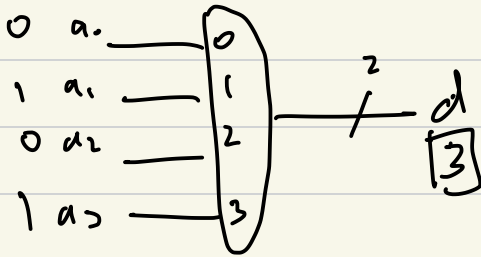


Encoder



a_2	a_1	a_0	d_1	d_0
0	0	1	0	0
0	0	0	0	1
0	1	0	1	0
1	0	0	1	1

Priority Encoder



Analyze Decode

IW \rightarrow INUM

