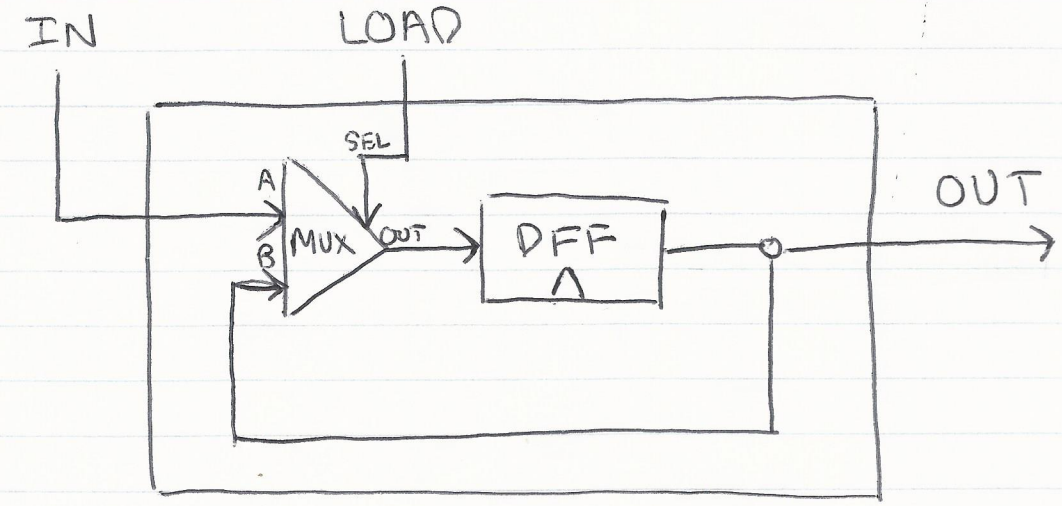
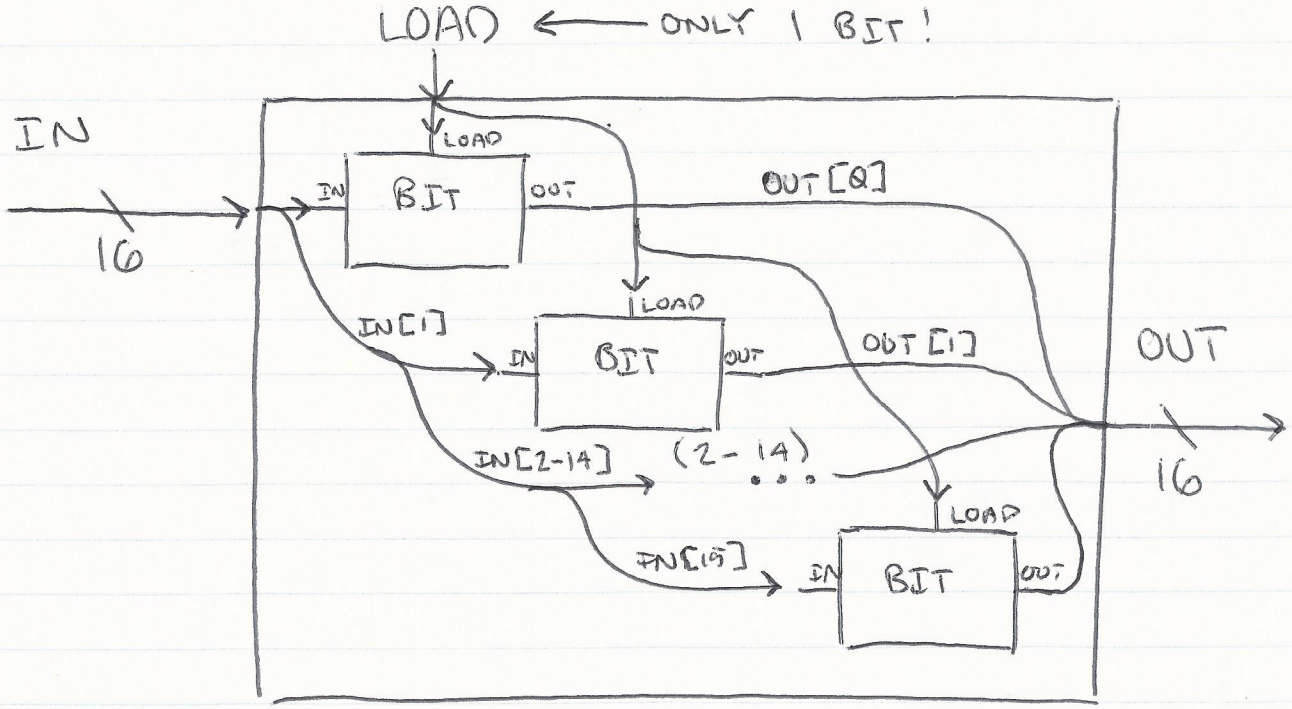
CS220 DOCUMENTATION
HOMEWORK #4

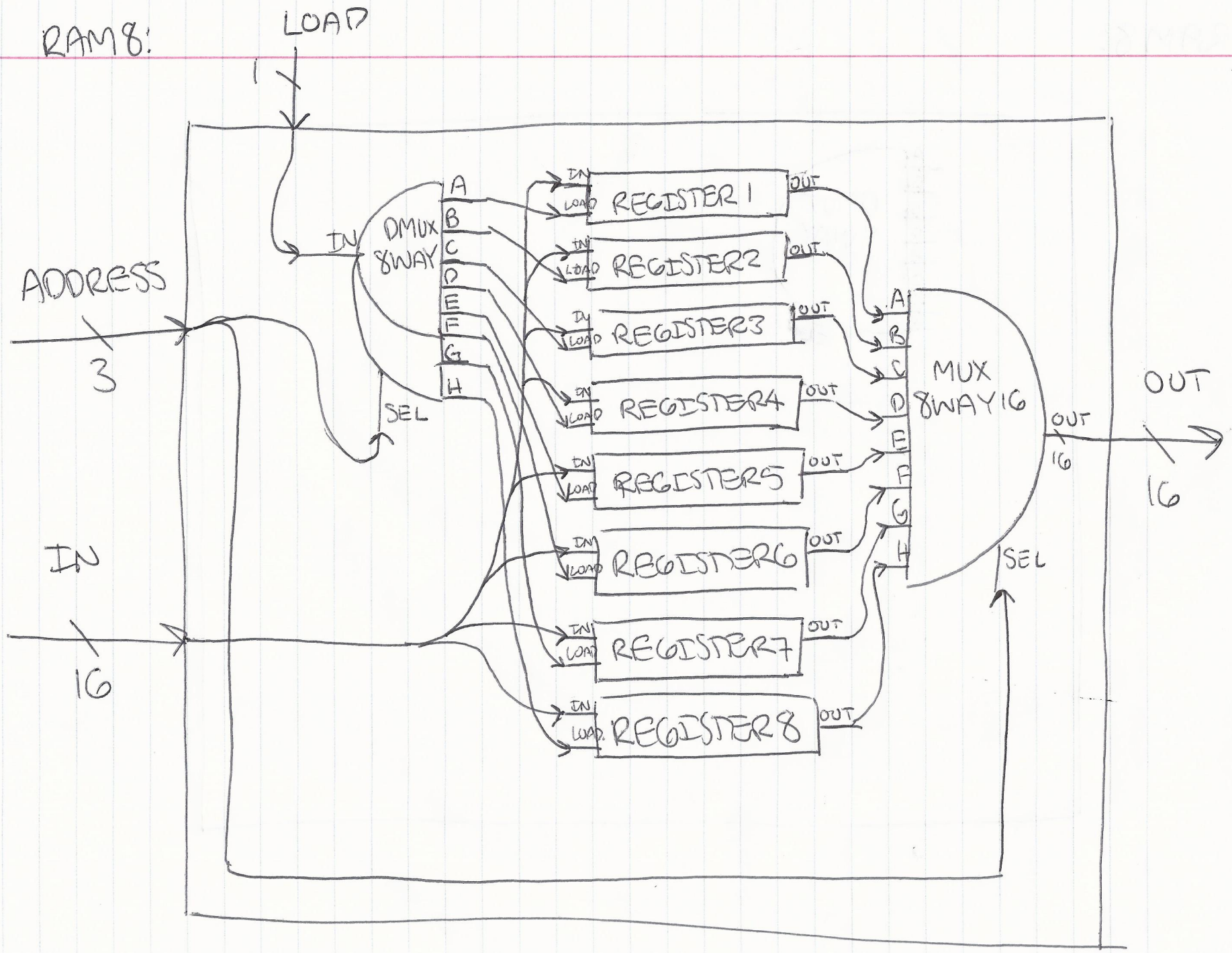
JACK ROLLINSON
W7252829

1-BIT REGISTER (BIT)

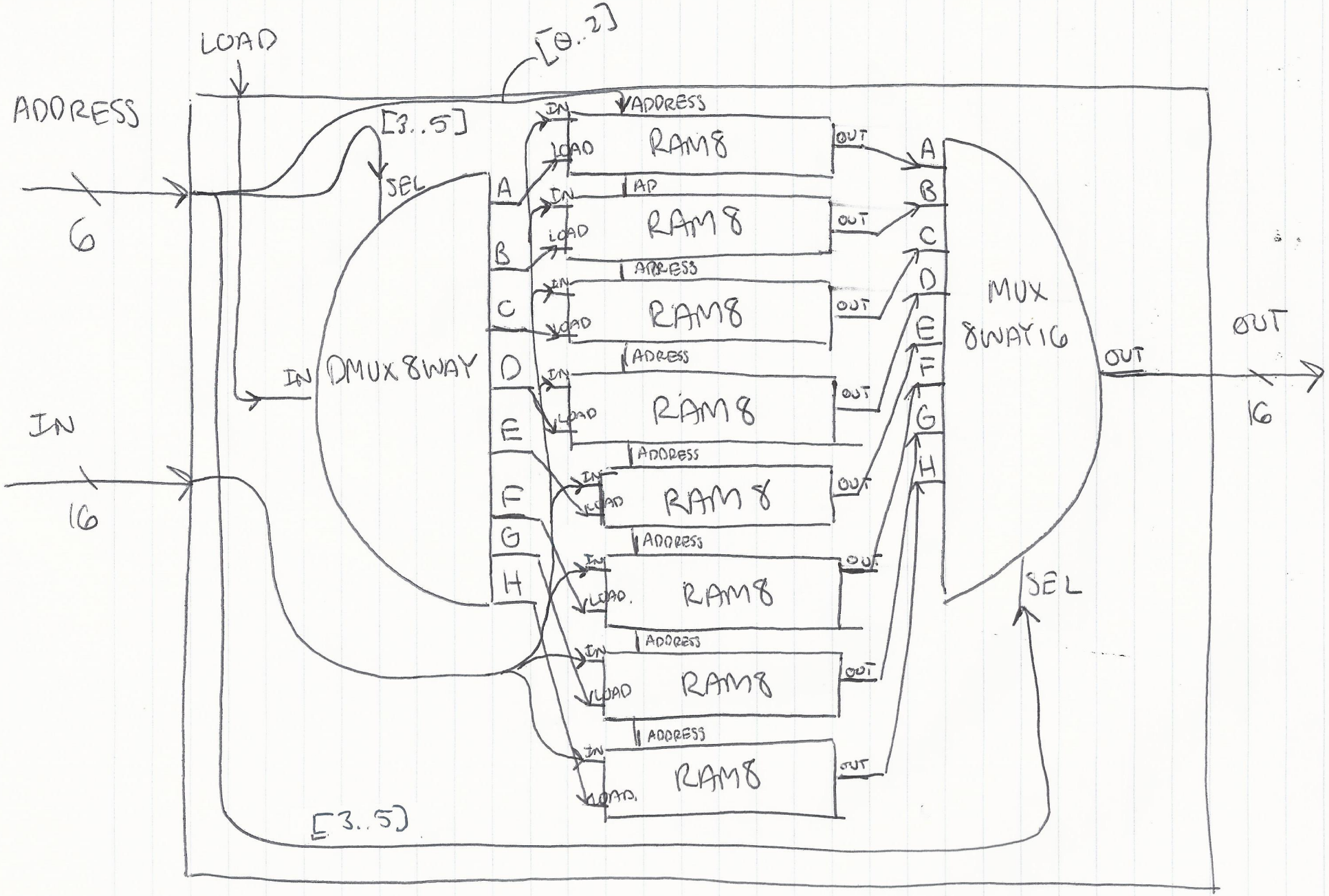


W-BIT REGISTER (REGISTER)
W = 16 (FOR OUR 16 BIT COMPUTER)

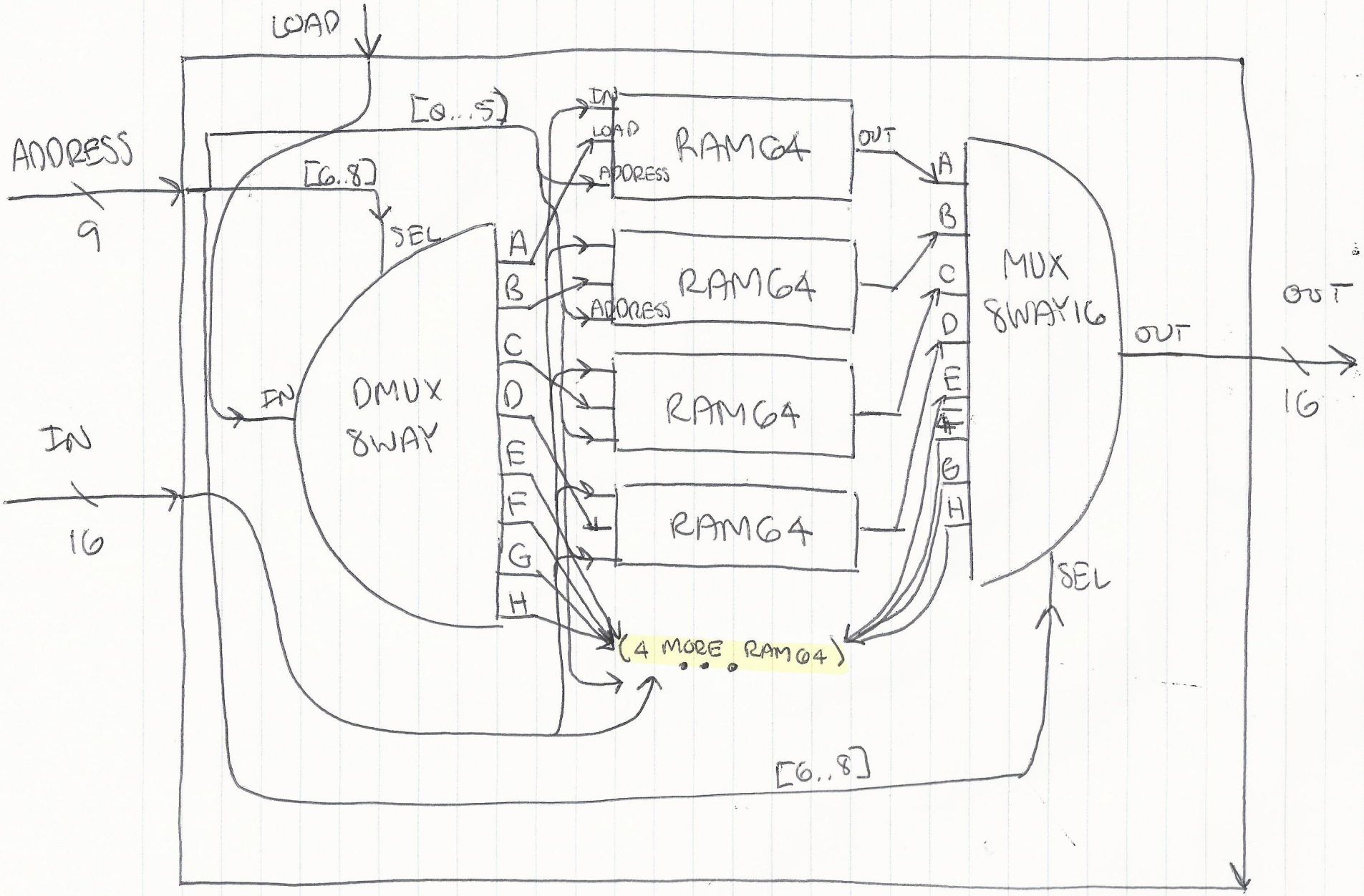



RAM8:
LOAD
1
ADDRESS
3
IN
16
DMUX 8WAY
IN
SEL
A
B
C
D
E
F
G
H
REGISTER 1
REGISTER 2
REGISTER 3
REGISTER 4
REGISTER 5
REGISTER 6
REGISTER 7
REGISTER 8
IN
LOAD
OUT
MUX 8WAY 16
SEL
OUT
16
OUT
16

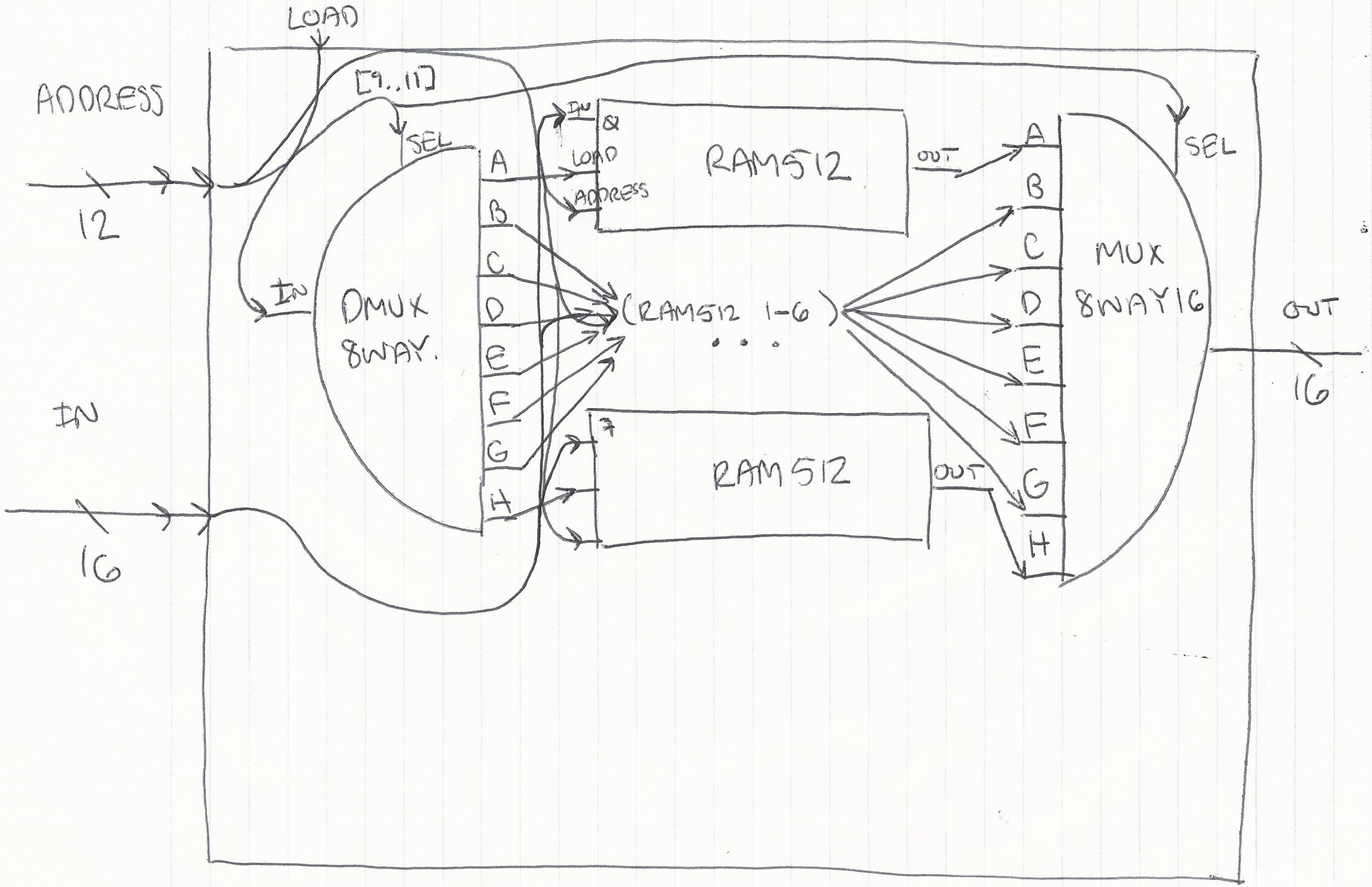
RAM 64:


LOAD
[0..2]
ADDRESS
6
[3..5]
SEL
IN
DMUX 8WAY
A
B
C
D
E
F
G
H
IN
ADDRESS
LOAD
RAM8
OUT
MUX 8WAY16
OUT
16
SEL
[3..5]

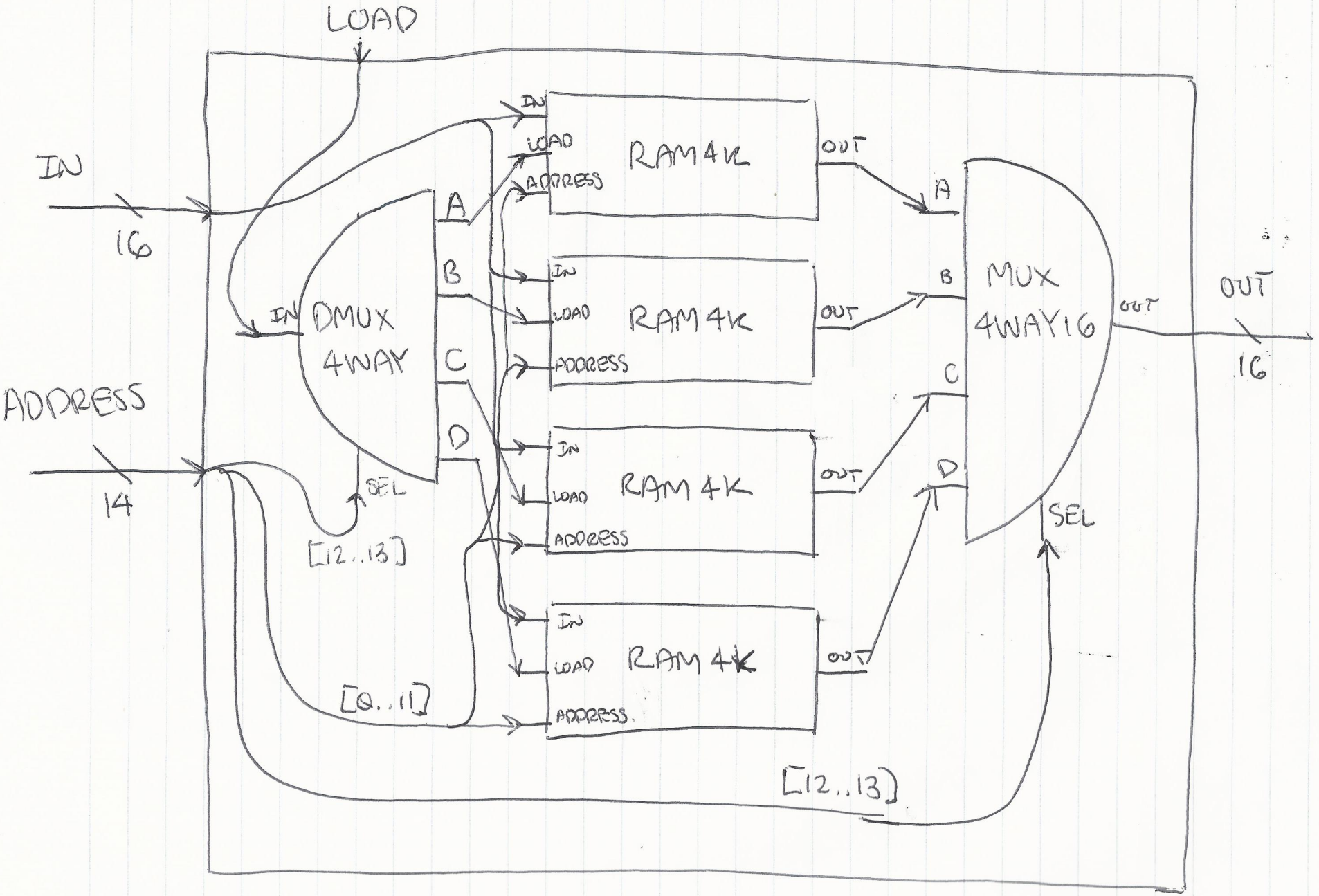
RAM 512:


LOAD
ADDRESS
9
IN
16
[0..5]
[6..8]
SEL
IN
DMUX
8WAY
A
B
C
D
E
F
G
H
IN
LOAD
ADDRESS
RAM64
OUT
(4 MORE RAM64)
MUX
8WAY16
OUT
SEL
OUT
16
[6..8]

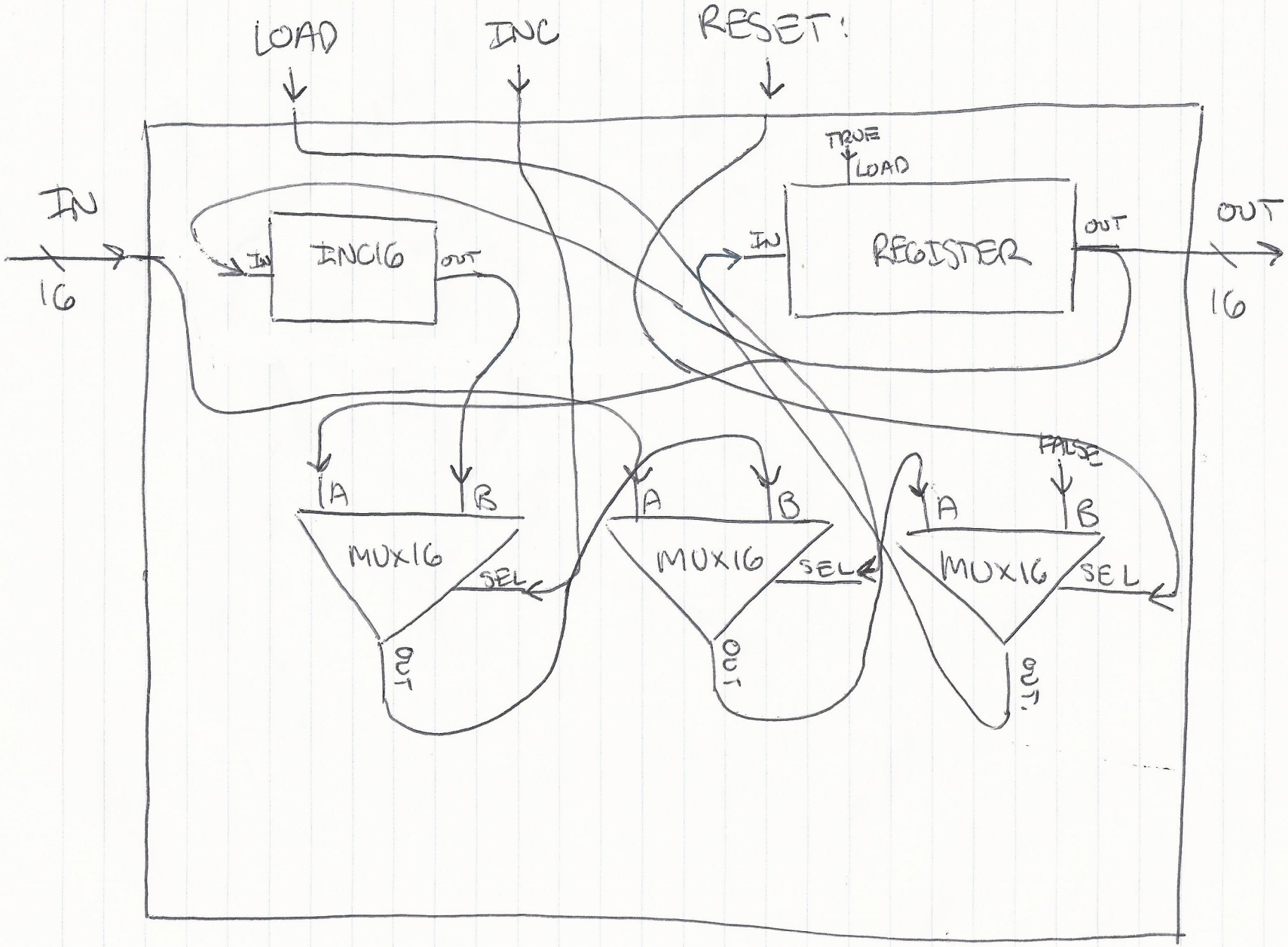
RAM4K:


LOAD
ADDRESS
12
[9..11]
SEL
IN
DMUX
8WAY.
A
B
C
D
E
F
G
H
IN
LOAD
ADDRESS
RAM512
OUT
(RAM512 1-6)
RAM512
OUT
A
B
C
D
E
F
G
H
SEL
MUX
8WAY16
OUT
16
IN
16

RAM 16K:


LOAD
IN
16
ADDRESS
14
DMUX 4WAY
IN
A
B
C
D
SEL
[12..13]
[0..11]
RAM 4K
IN
LOAD
ADDRESS
OUT
MUX 4WAY16
OUT
16
[12..13]

PC:


LOAD
INC
RESET
IN
16
INC16
IN
OUT
TRUE
LOAD
REGISTER
IN
OUT
OUT
16
A
B
MUX16
SEL
OUT
A
B
MUX16
SEL
OUT
FALSE
A
B
MUX16
SEL
OUT