

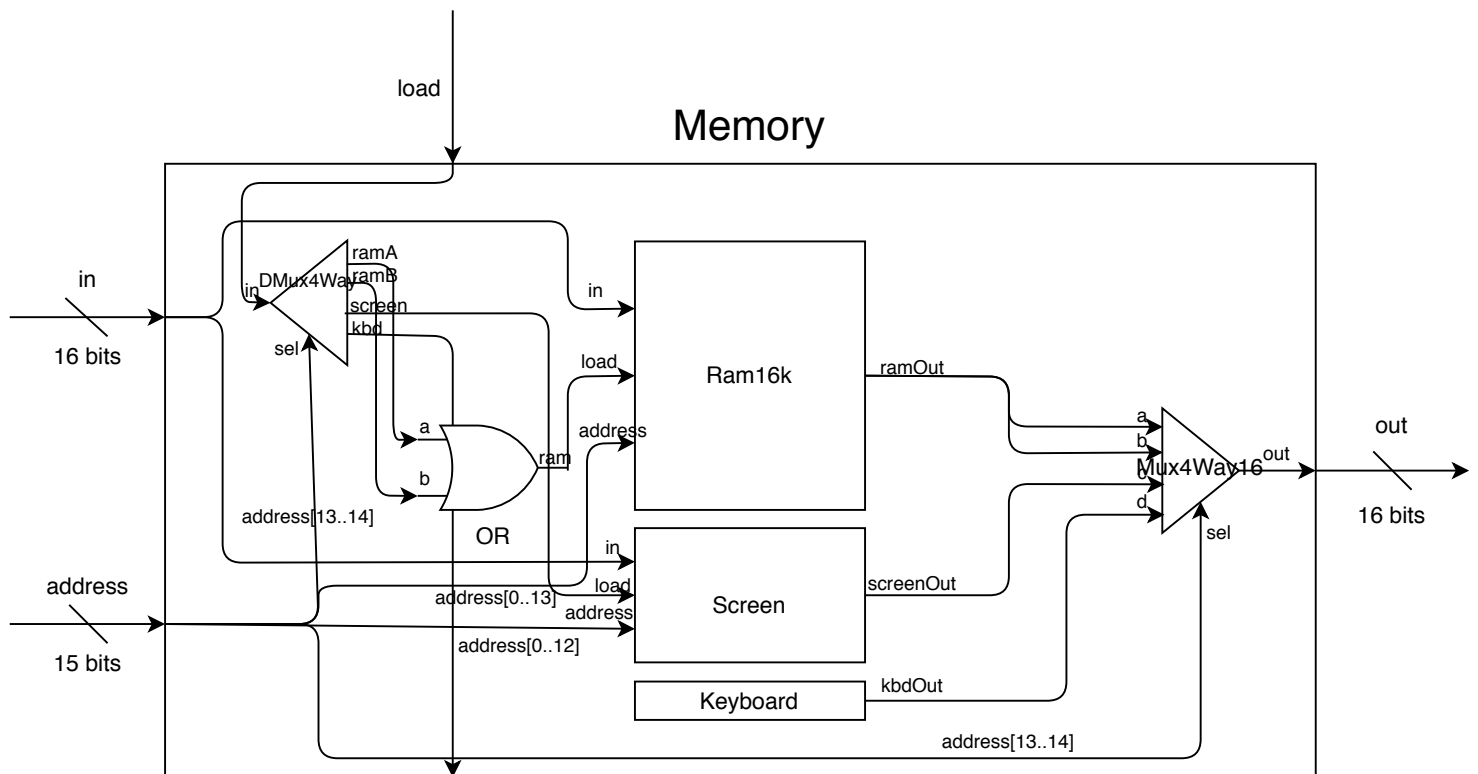
# Homework #6

## CS220 - Computer Architecture + Machine Language

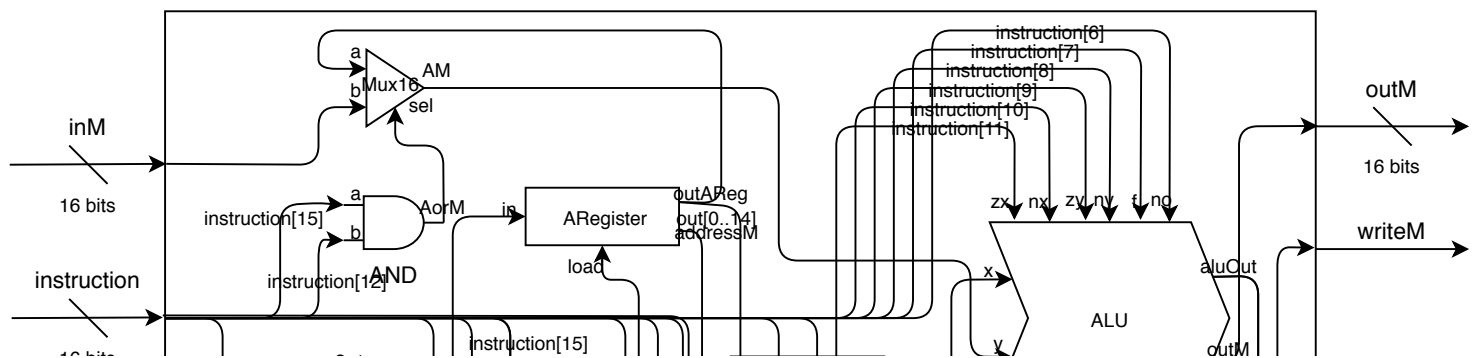
Author: Blake Dowling

Section: 2367 Fridays 9:00am - 12:50pm

Last Modified: 10/27/20











## CPU





Hardware Simulator (2.5) - /Users/blakedowling/Desktop/nand2tetris/projects/05/CPU.hdl

FileViewRunHelp



SlowFast

Animate:Program flowFormat:D...View:Ou...

Chip Nam... CPU (Clocked)Time : 46

Input pins

Name	Value
inM[16]	11111
instruction[16]	32767
reset	0

Output pins

Name	Value
outM[16]	1
writeM	0
addressM[15]	32767
pc[15]	1

HDL

```
And(a=positive, b=notZero,
And(a=JGT, b=positiveNotZer

And(a=instruction[15], b=ir
And(a=JEQ, b=zr, out=load2)

And(a=instruction[15], b=ir
And(a=JLT, b=ng, out=load3)

Or(a=load1, b=load2, out=lc
Or(a=load3, b=load4, out=lc

PC(in=outAReg, load=load5,
}
```

Internal pins

Name	Value
AInstruction	1
aluOut[16]	1
inAReg[16]	32767
loadA	1
outAReg[16]	32767
AorM	0
AM[16]	32767
outDReg[16]	1
zr	0
ng	0
loadD	0
positive	1
notZero	1
JGT	0

28+	11111	1110101010010000	0	0	0	1000	1000	0
29	11111	1110101010010000	0	0	0	1000	1001	0
29+	11111	1110001100000001	0	0	0	1000	1001	0
30	11111	1110001100000001	0	0	0	1000	1002	0
30+	11111	1110001100000010	0	0	0	1000	1002	0
31	11111	1110001100000010	0	0	0	1000	1000	0
31+	11111	1110001100000011	0	0	0	1000	1000	0
32	11111	1110001100000011	0	0	0	1000	1000	0
32+	11111	1110001100000100	0	0	0	1000	1000	0
33	11111	1110001100000100	0	0	0	1000	1001	0
33+	11111	1110001100000101	0	0	0	1000	1001	0
34	11111	1110001100000101	0	0	0	1000	1002	0
34+	11111	1110001100000110	0	0	0	1000	1002	0
35	11111	1110001100000110	0	0	0	1000	1000	0
35+	11111	1110001100000111	0	0	0	1000	1000	0
36	11111	1110001100000111	0	0	0	1000	1000	0
36+	11111	1110111111010000	0	1	0	1000	1000	1
37	11111	1110111111010000	0	1	0	1000	1001	1
37+	11111	1110001100000001	0	1	0	1000	1001	1
38	11111	1110001100000001	0	1	0	1000	1000	1
38+	11111	1110001100000010	0	1	0	1000	1000	1
39	11111	1110001100000010	0	1	0	1000	1001	1
39+	11111	1110001100000011	0	1	0	1000	1001	1
40	11111	1110001100000011	0	1	0	1000	1000	1
40+	11111	1110001100000100	0	1	0	1000	1000	1
41	11111	1110001100000100	0	1	0	1000	1001	1
41+	11111	1110001100000101	0	1	0	1000	1001	1
42	11111	1110001100000101	0	1	0	1000	1000	1
42+	11111	1110001100000110	0	1	0	1000	1000	1
43	11111	1110001100000110	0	1	0	1000	1001	1
43+	11111	1110001100000111	0	1	0	1000	1001	1
44	11111	1110001100000111	0	1	0	1000	1000	1
44+	11111	1110001100000111	1	1	0	1000	1000	1
45	11111	1110001100000111	1	1	0	1000	0	1
45+	11111	0111111111111111	0	1	0	1000	0	1
46	11111	0111111111111111	0	1	0	32767	1	1

End of script - Comparison ended successfully