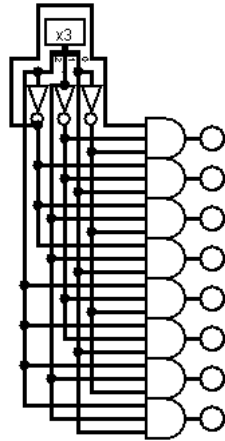


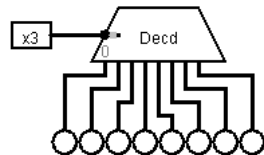
Lab 3

- Decoders

- Octal Decoder, per textbook.

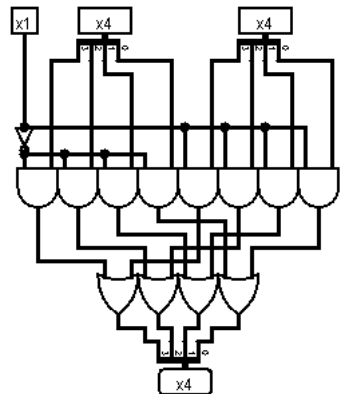


- Octal Decoder, Logisim component.

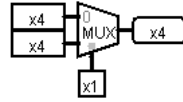


- Multiplexers

- 2:1 4-bit wide Multiplexer, per textbook.

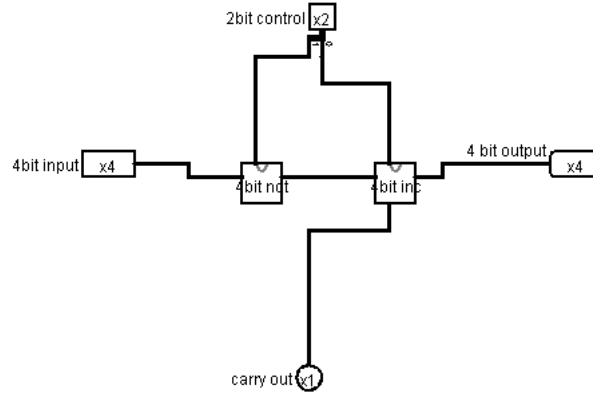


- 2:1 4-bit wide Multiplexer, Logisim component.



- Tiny Alu Circuit

- 4-bit wide Tiny Alu component.



- Function table for Tiny Alu component

A	Op	Out
k	00	k
k	01	$if\ k \geq 0, k + 1; else\ k - 1$
k	10	$if\ k \geq 0, k - 7, else\ k + 8$
k	11	$if\ k = -1, -1; if\ k > 0, k - 9; if\ k < -1, k + 9$