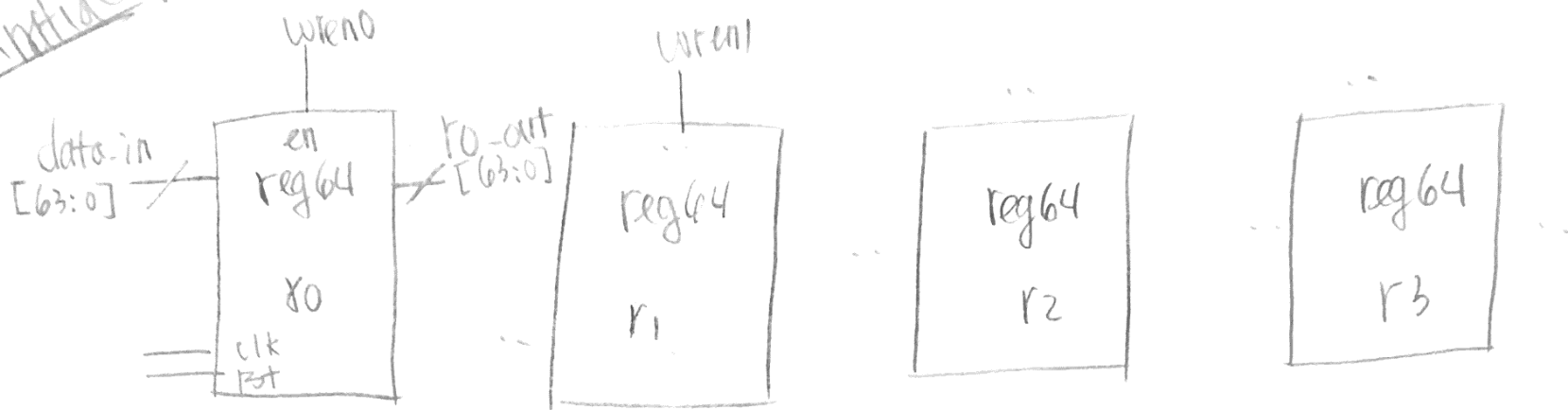
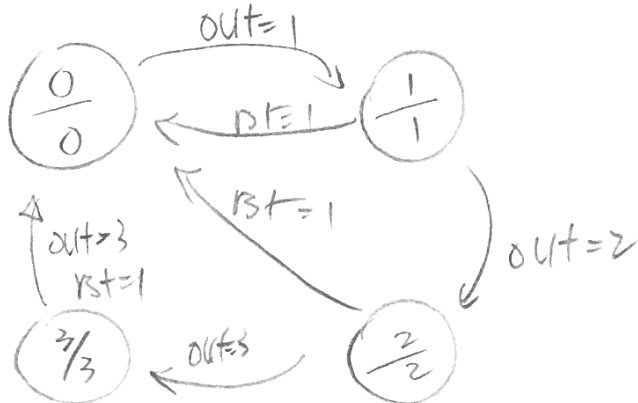
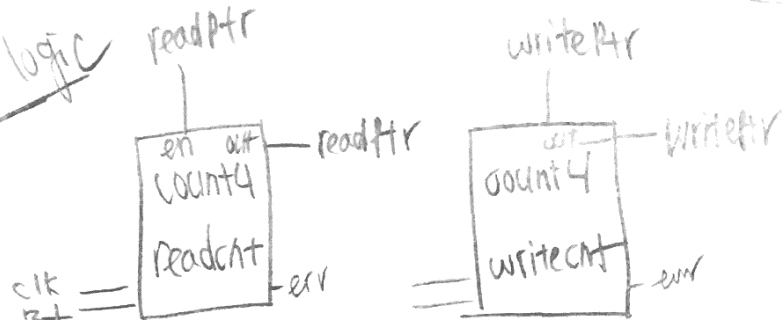


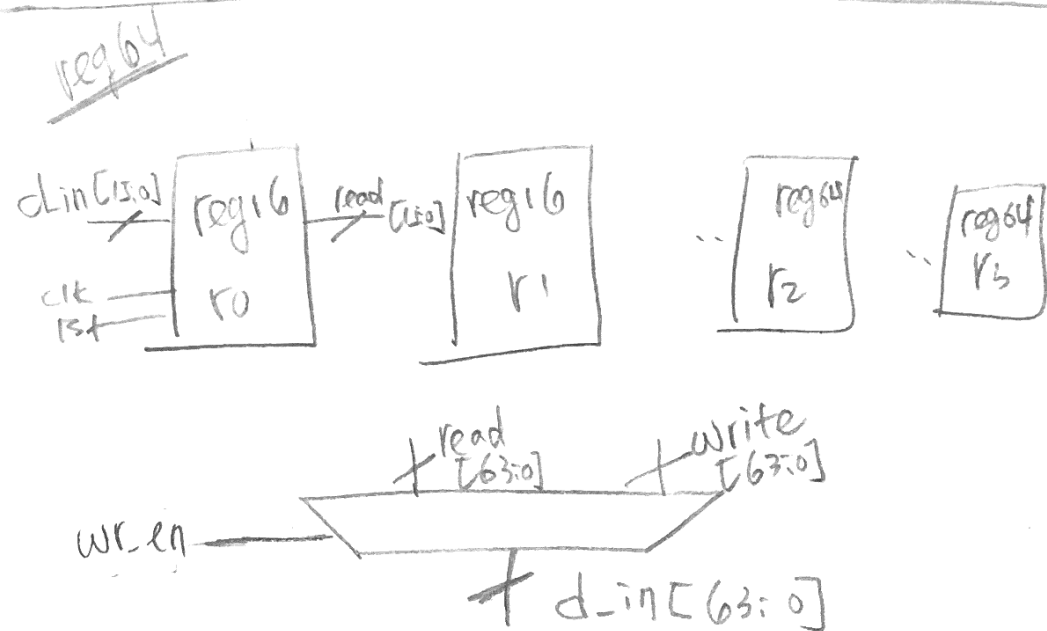
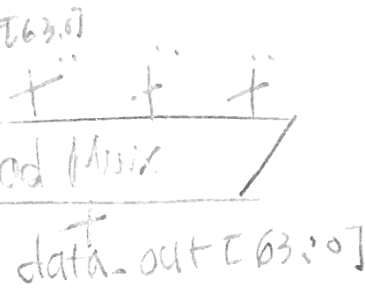
Problem 5:  
Combinational



Counter logic



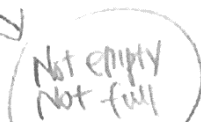
count4



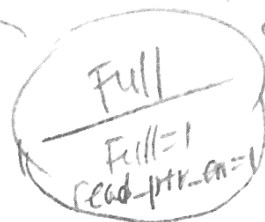
data-in-vald



data-in-vald



pop-fifo



pop-fifo

n-read\_ptr != n-write\_ptr  
&& !data\_vald\_in

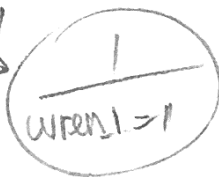
n-read\_ptr != n-write\_ptr  
&& data\_vald\_in

n-read\_ptr := n-write\_ptr

Empty:



wr\_ptr=1



wr\_ptr=2

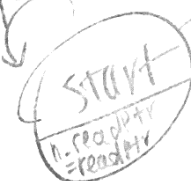


wr\_ptr=3

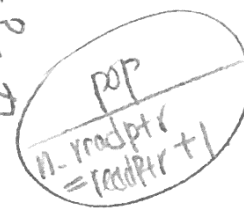


Not empty  
Not Full

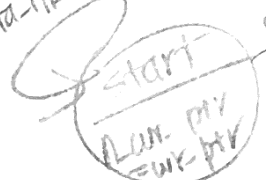
pop-fifo



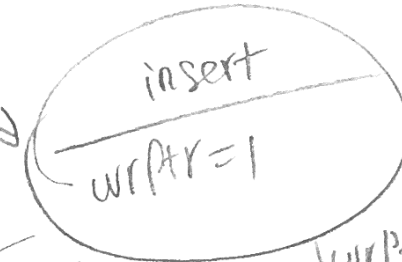
pop-fifo



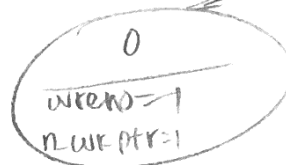
data-in-vald



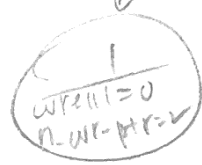
data-in-vald



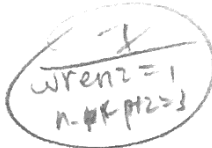
wr\_ptr=0



wr\_ptr=1



wr\_ptr=2



wr\_ptr=3

