

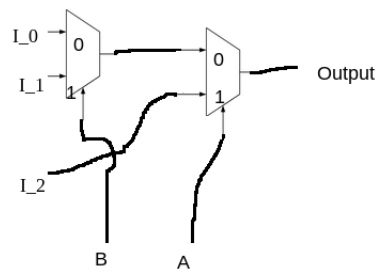
Digital Logic Design: Homework 6

Joshua Dong

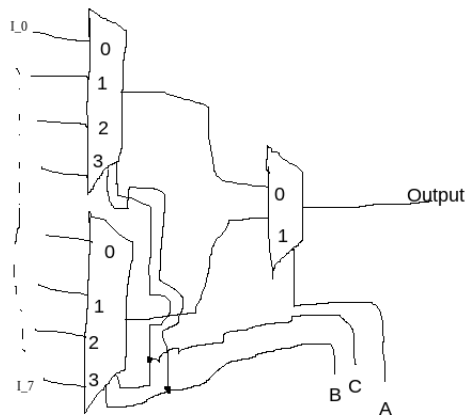
October 20, 2016

9.1

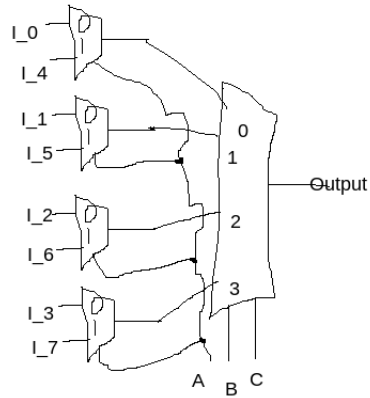
a)



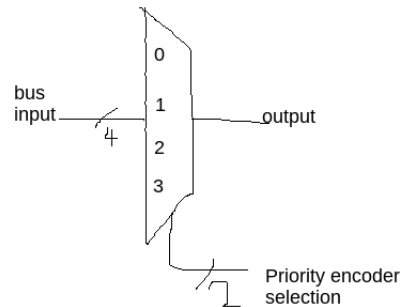
b)



c)



9.6



9.11

a)

There are three products, requiring 3 AND gates. If F is inverted, $F' = (c'd' + bc' + a'c')' = (c' + d')(b + c')(a' + c') = ab'c'd + c$ then we only need 1 AND gate.

b)

If $F = a'b' + c'd'$, then we only need 2 AND gates. $F' = (a'b' + c'd') = bd + ab'd + bcd' + ab'cd'$, so we would need 4 AND gates for the inverted output.