EE314 Experiment 4 Elementary Gate Networks

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2) The F block must be 2x1 multiplexer. 3) 74151 is an 8x1 multiplexer
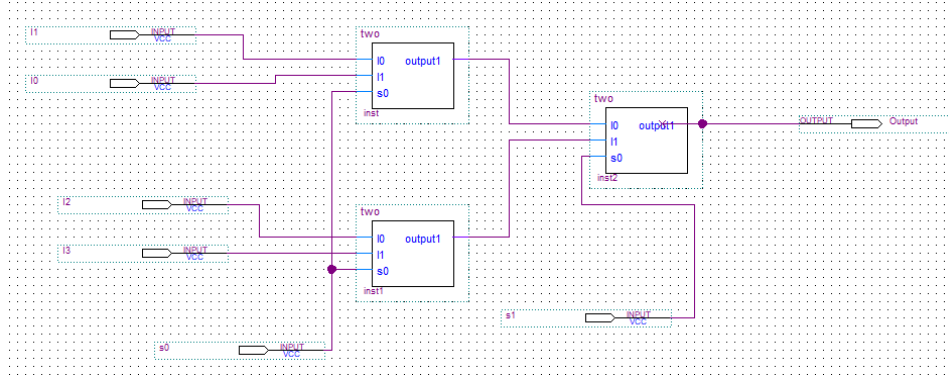so that
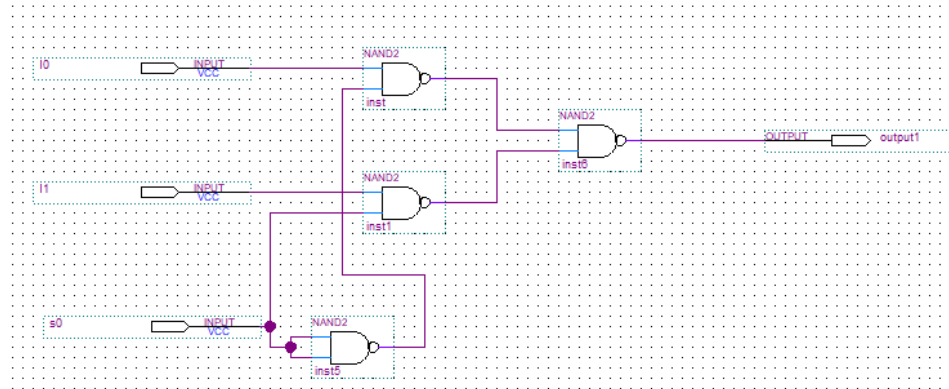

Figure 1: 16 bit Multiplexer using 74151

4)

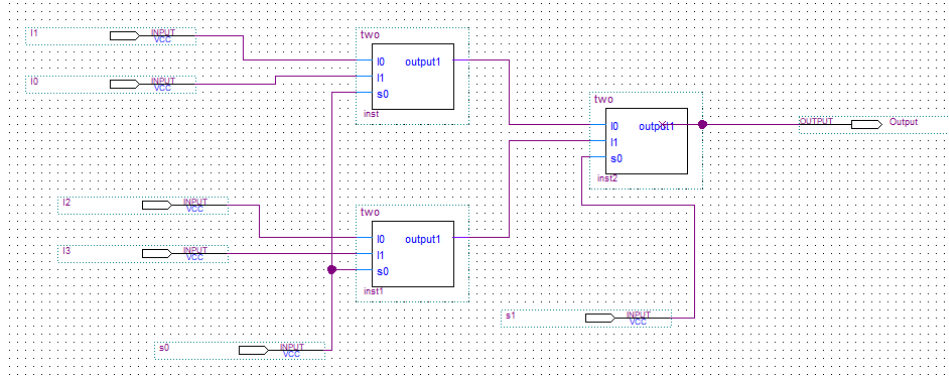Figure 2: 2x1 Multiplexer with NAND gates

1

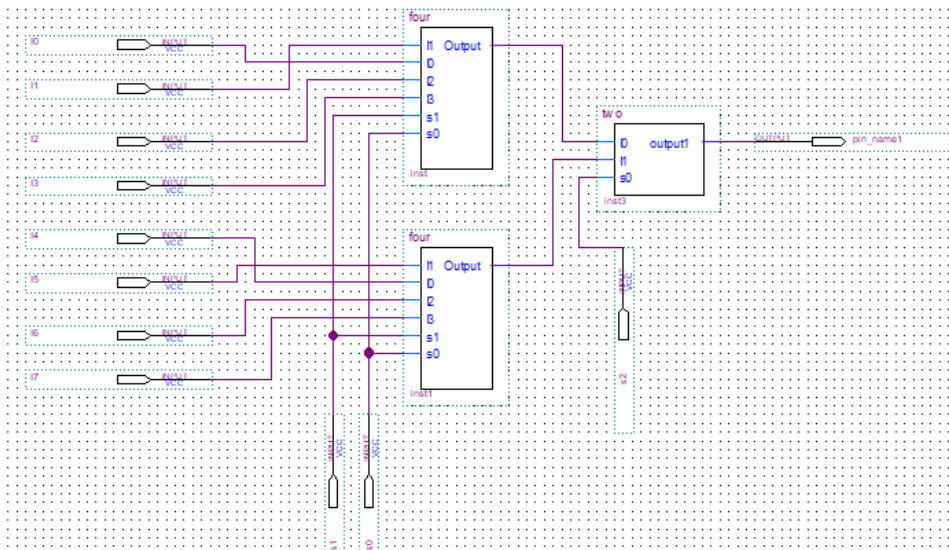Figure 3: 4x1 Multiplexer using 2x1 Multiplexer

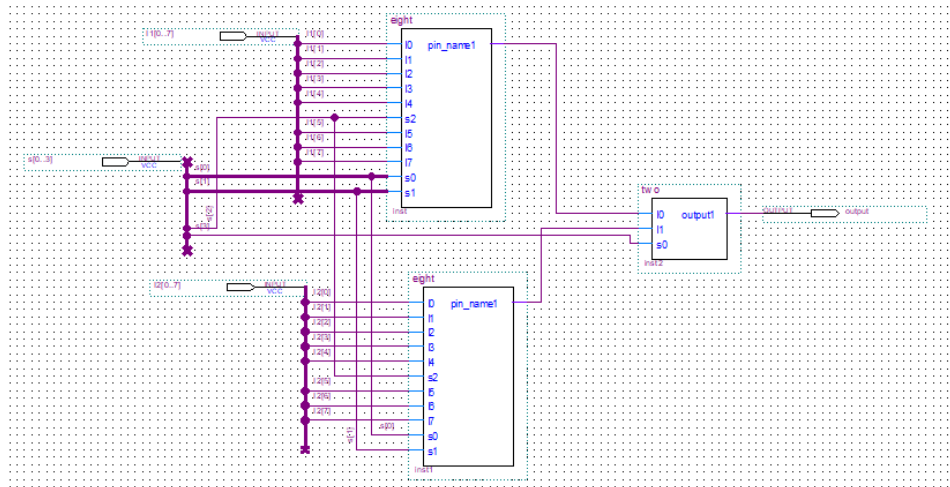

Figure 4: 8x1 Multiplexer using 4x1 Multiplexer

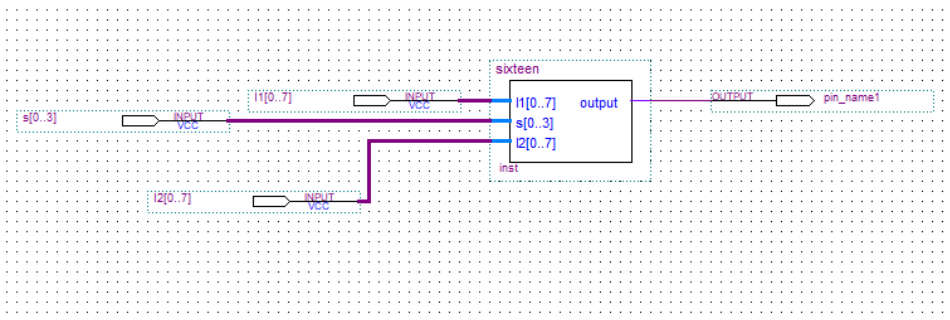Figure 5: 16x1 Multiplexer using 8x1 Multiplexer

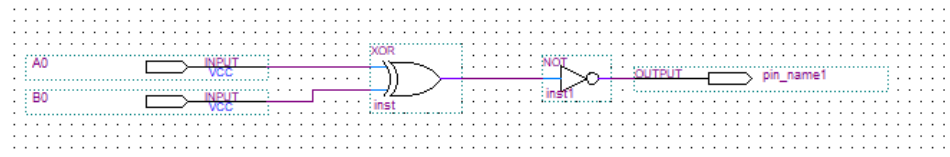
Figure 6: 16x1 Multiplexer
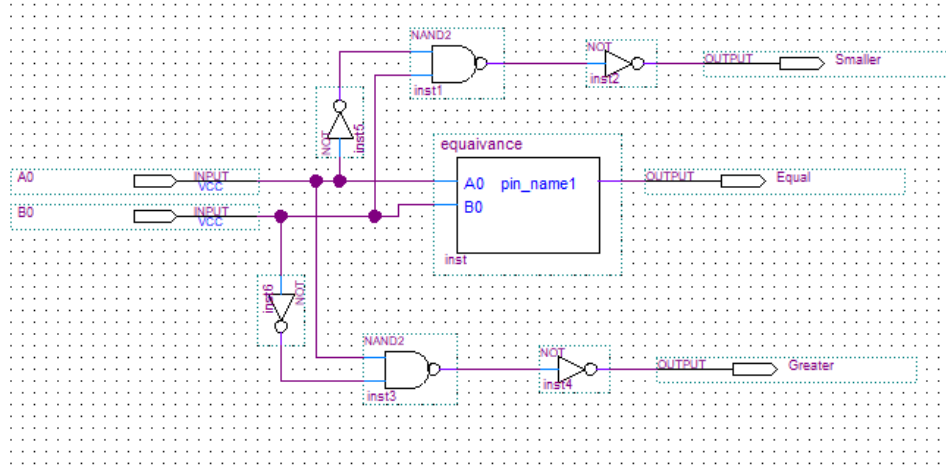
5)

Figure 7: Equivalence circuit using NAND
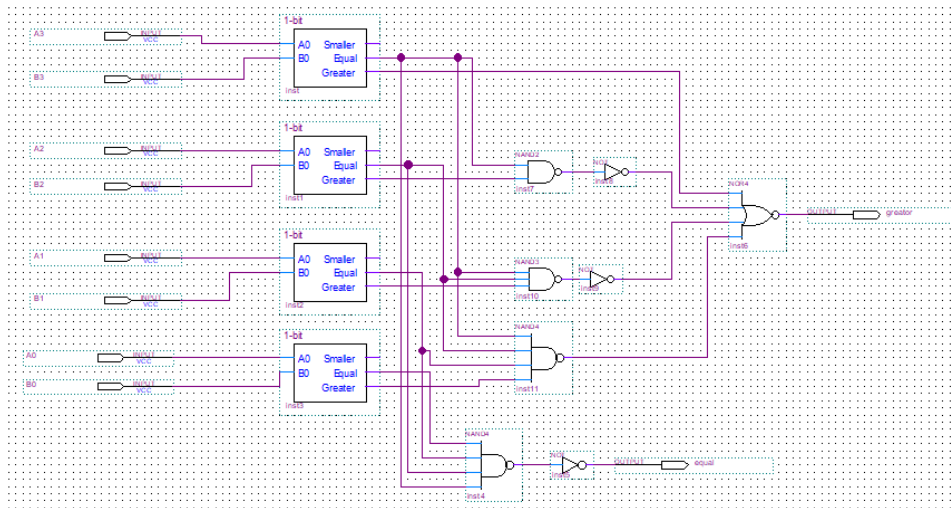
Figure 8: 1 bit comparator
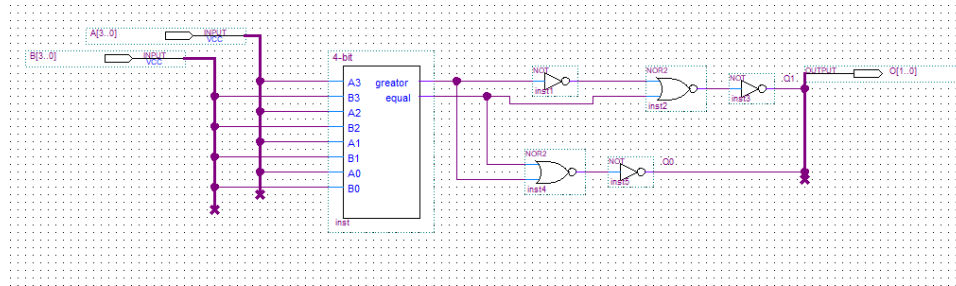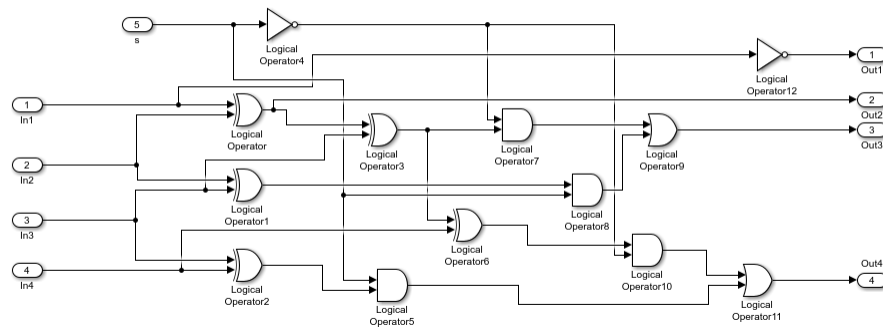

Figure 9: 4 bit comparator

4

Figure 10: 4 bit comparator

6)

Figure 11: gray code to binary and binary to gray code converter