

ECL 203 Logic Circuit Design Lab.

Design a Mod 8 up or down counter using mod control.

Set up a Mod 5 Asynchronous Counter.

Design and setup a synchronous decade counter.

Design a Full Adder using gates , model it using Verilog.

Design a Combinational network having 2 input pins which produce the square of the input.

Design a circuit to realize the function using 8:1 multiplexer

$$F(A,B,C)= \Sigma(0,1,3,5,7,10,11,12,13).$$

Realize the function $F(A,B,C,D)= \Sigma(1,5,7,9,10,11,12)$ using using 16:1 MUX.

Design and implement a 16:1 mux using two 8:1 mux.

Implement a Circuit to obtain 1kHz from 10kHz clock signal.

Design a D Flip Flop model it using Verilog and test it using Testbench and Simulator.

Design and Implement Johnson Counter.

Design a digital system which can be used for finding the result of Full Adder and full Subtractor separately (Outputs are Sum, Carry, Difference,Borrow).

Design and set up a circuit to count 8-4-2-1 sequence.

Design a circuit to find the product of a 3 bit number by 3.

Design and Implement a Binary to Excess-3 Converter.

Design and Implement Full Subtractor using Multiplexer IC.

Design and Implement Full Adder Using Multiplexer IC.

Design and Implement a Digital System to add two 8 bit numbers.

Model a 3 bit Johnson Counter using Verilog and verify its operation using testbench and simulator.

Design and Setup a Circuit to divide a frequency of 12kHz to 2 kHz using minimum number of flip flops.

Design a circuit to find the BCD of the 4 bit Binary number.

Design 3 bit Ring and Johnson Counter using mod Control.

Design a circuit to get the cube of a 3 bit number.

Model a JK FF using Verilog and verify its operation using testbench and Simulator.

A Lamp is controlled by two switches. It should be ON if and only if one switch is ON. Realize this using a MUX.

Design and set up a two bit comparator using gates.

Design and set up a two bit comparator to check the condition $A < B$ using gates.

Design a circuit to subtract two 4 bit numbers.

Design and implement Full Adder Using NAND gates only.

A lamp is controlled by 4 switches. The lamp should glow under the following conditions

- If any one switch is ON
- If any two switches are ON. Setup a logic circuit.