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Lab Quiz 2

Problem

You have **60 minutes** to implement the equation **Y=A/CD+A/BCD+/CD**

You must design a circuit in Quartus that uses a 74'153 (4-input multiplexer with an active-low) enable.

Y is active high. You may choose any activation level for A, B, C, and D.

Instructions

1. Draw a mixed-logic circuit diagram that implements the above equation using a 4-input multiplexor with active low enable
2. On your scratch paper, create a truth and voltage table for your circuit. They must be in counting order.
3. Design and circuit in Quartus.
4. Functionally simulate your circuit in Quartus, showing all possible inputs. Verify this matches your voltage table.
5. Build your circuit on your breadboard. You may use your PLD to implement the logic of your design.
6. Produce switch and LED legends.

Submit to Lab – Quiz 2- Generic

1. Screenshot of Quartus BDF.
2. Screenshot of simulation output (no need to annotate).
3. You Quartus .qar file.

Submit to Lab – Quiz 2 – Phone

1. A scan of your breadboard and scratch paper (hand-drawn circuit, voltage table, truth table, switch and LED legends).