

Dept. of Computer Science and Engineering
CSE3201 – Digital Logic Design
Lab 8

Part I

In this lab, you will design a system to measure the reaction time of a user. A reset button will bring 2 7-segment displays to 0. Then a toggle switch is used to light a LED, as soon as the LED is turned on, the user pushes a push button switch. The time between the LED is on, and the user pushes the push button switch is displayed on the 2 7-segment displays in 1/50 of a second. If the user takes 2 seconds or more then CC is displayed. If the user pushes the button before the LED is ON, FF is displayed.

Lab report

See the guidelines for the lab report on the Lab section of the course web page. For this lab, you have to add the following to your lab report.

- First, your design. How did you approach this problem? Initial block diagram for your solution.
- The truth tables for all your functions you used in your design
- Timing simulation of your circuit, showing the signals on the input and output pins. From the simulation calculate the worst case delay from changing one of your switches until the result is displayed on the 7-segment display

The demonstration for this lab will be with lab 9 in the last week of classes. You don't have to complete it this week.