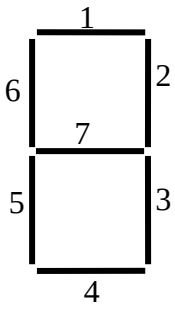
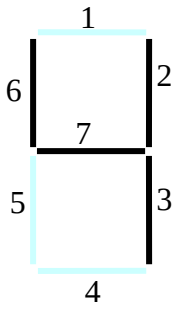
Dept. of Computer Science and Engineering
CSE3201 – Digital Logic Design
Lab 2

This lab is to get you acquainted with the design of a simple combinational circuit.

Design a circuit that display on one of the seven segments displays the binary value represented by the max of the two binary number represented by the 2 sets of switches SW0 to SW2, and SW3 to SW5.
For example if SW2 SW1 SW0 are 100 (4), and SW5 SW4 SW3 are 011 (3) the 7-segment display should display the number 4 (4>3).



For example, to display 4, segments 2,3,6,7 are illuminated while segments 1,5,4 are off



The seven segment display consists of 7 LEDs as shown in the above figure, the different LEDs are switched on and off to represent a certain number, so for example to represent the number 4, LEDs number 2,3,6 and 7 are ON the rest are off.
Construct a truth table to show the relation between the switches and the LEDS here is a partial table

A	B	C	LED1	LED2	LED3	LED4	LED5	LED6	LED7
0	**0**	**0**							
0	**0**	**1**							
0	**1**	**0**							
0	**1**	**1**							
1	**0**	**0**	0	1	1	0	0	1	1
1	**0**	**1**							
1	**1**	**0**							
1	**1**	**1**							

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Complete the table to find the relation between the values of A,B, and C and the segments.

Using any technique, implement this circuit and download it on the D2 board

LED1 = function(SW2, SW1, SW0)
Note that a segment is illuminated by driving it to logic 0

Pre-Lab Work

Complete your design using Verilog, show the program to the TA before starting

Lab report
See the guidelines for the lab report on the Lab section of the course web page