ECN-252 Lab 2

Please try to complete all the three parts by 25 Feb. 6:30 pm.

You need to save the circuit for each part. These circuit files need to be submitted in a compressed folder (.zip) with your roll no. as the name. For example, if your roll no. is 191112002, you need to submit 191112002.zip which will contain 3 schematic files. The .zip should also contain a report (a word file will do) that has the screenshots of your circuits for every part. The report should also contain screenshots of the simulation results to prove successful operation of your circuits.

Part -1:

Design a *full adder* using the specified gates only.

[ECE group will use 2-input NOR gates; CSE group will uses 2-input NAND gates]

Part -2:

Design a *4-bit adder* using the *full adder* from Part-1.

Part-3:

Subtract numbers A and B using 2's compliment method (A and B specified below). Use the *4-bit adder* from Part-2.

To get the numbers A and B, use mod(Roll No.,4)+1 and select the corresponding problem below.

[For example, if your roll no. is 191112002, you should select mod(191112002,4)+1 = 3; i.e. Problem 3.]

Problem 1: A=1100; B=1011

Problem 2: A=1011; B=0111

Problem 3: A=1111; B=0011

Problem 4: A=1000; B=0101

Note: Remember to take screenshots and save your circuit schematic as soon as you finish each part. You need to submit this as a part of the report. Every part will be graded independently.