INDIAN INSTITUTE OF TECHNOLOGY PATNA
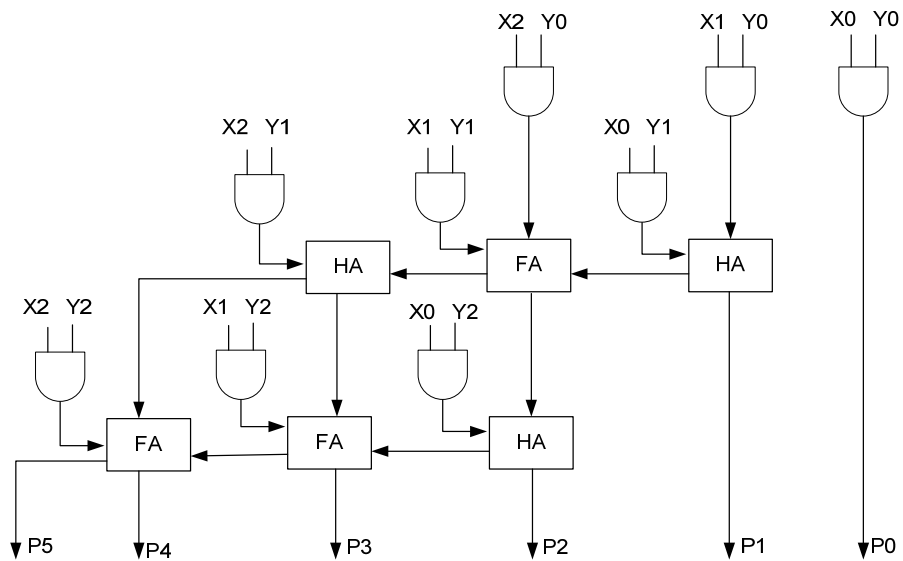
CS226- Switching Theory Lab

Lab 4:   Arithmetic and Logic Circuits

(Design and simulate)

Assignment

P1: *Simulate 3 bit multiplier shown below and simulate (X and Y are 3 bit numbers)*

(10 points)

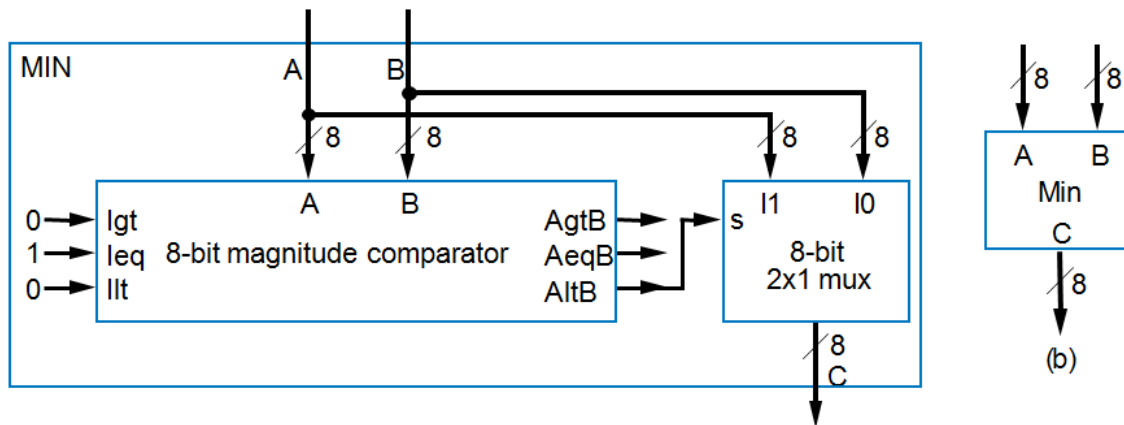P2: **Re-design P1 to an 8-multiplier**

(30 points)

P3: Design a combinational component that compares two 4-bit numbers(GT, LT, and EQ).

(20 points)

P4: Design a combinational component that computes the minimum of two 8-bit numbers (Hint Use 8-bit magnitude comparator and 8-bit 2x1 mux If A<B, pass A through mux. Else, pass B.)

(40 points)

Submission:

- **Simulation report** (screen shots of design and simulation output). The simulation files p1.circ, p2.circ, p3.circ, and p4.circ

- Zip the above files. file name is your role number.

Course work submission through:
https://u.pcloud.com/#page=puplink&code=XUv7ZWjyUFvnYY2Fm2PsFj0fEVS0AKTzk

This work is due on: : 16th Feb 2021, 11 PM.