CS2310: Digital Logic Design Lab
Assignment 1

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1 Problem statement

In this lab, you will be designing and implementing circuits to solve the following two problems.You can use any of the basic 2-input logic gates (AND-OR-NOT-NAND-NOR-XOR) in your implementation,but you can use at most one IC chip of a certain type (eg., you can't use two IC7402's for Problem 1), for each problem.

1.1 Determinant of a binary matrix

Design a circuit that evaluates the determinant of a 2 X 2 binary matrix
(Note : State any assumptions made about input and output representations)

1.2 2-bit Comparator

Design a circuit that takes two unsigned 2-bit numbers (a and b), and displays one of greater($a < b$), lesser ($a < b$) or equal ($a == b$) signals.