

## CSE 234 Logic Circuits and Digital Design

### Lab 2

#### Lab Session (Exact Duration: 60min):

It is under consideration to change the course time of a 7-person classroom. As a result of the voting, if there are more than 2 “No” (logical 0) votes, the change of course time will be absolutely canceled. Percentage of “No” voting rates will be asked to show with 2 bits.

**Absolute Cancellation (00):** More than 2 “No” votes

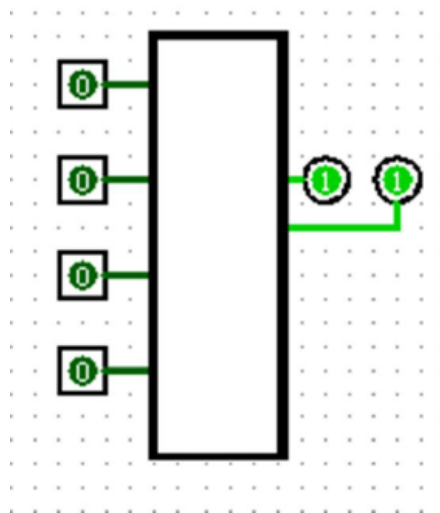
**Cancellation with the Student Council (01):** 1 “No” vote

**Cancellation in consultation with the Course Instructor (10):** 2 “No” votes

**Absolutely not canceled (11):** if there isn't any “No” vote

The number of votes of those who say no will be converted to BCD (Binary Coded Decimal) code, taken as input values and their rates will be displayed on the output bits.

1. Create a truth table according to the problem.
2. Obtain the expression as sums of products using the Karnaugh map method. (Use (X) for invalid BCD codes on the map.)
3. Design a suitable circuit for the problem by using LogiSim.



#### Demo Session:

During demo, explain and simulate each step of your design. Do not forget you only have at most 4 minutes for that. Also you will answer any questions asked by the TA.