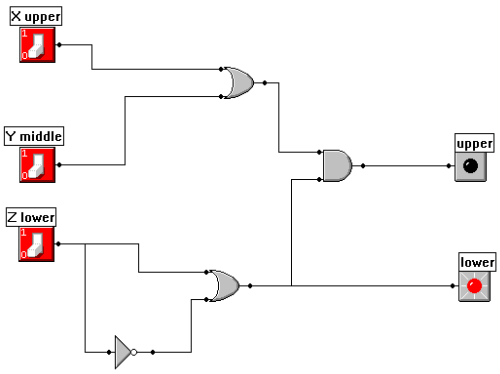
Lab 2 Part D: Building and Testing Logic Gates Continued.

Name:

1. Build and save the circuit found below as Lab2D. Upload the file to your ftp folder. Hand in hard copy of work at the beginning of class Monday.



2. Complete the Truth Table for the circuit.

TRUTH TABLE

X upper switch	Y middle switch	Z lower switch	Upper LED	Lower LED	
Off	Off	Off			
Off	Off	On			
Off	On	Off			
Off	On	On			
On	Off	Off			
On	Off	On			
On	On	Off			
On	On	On			

3. Write the corresponding **expressions (one for the upper LED, one for the lower LED)** using the logical connectives AND, OR, and NOT.

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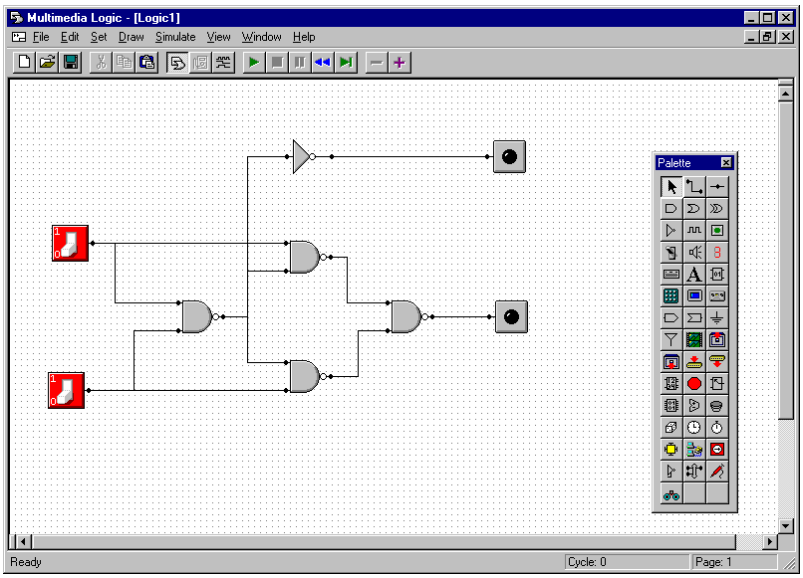
BONUS EXERCISE (OPTIONAL):

Other circuits

If there is time, you might like to design some circuits of your own. Here is an idea:

- In practice, it is much easier to make NAND gates than AND gates. Check that the following circuit calculates the sum and carry of its inputs:



- Explain the results.