Tyler Holland

Suzie Marano

1. On paper
2. On paper
3. On paper
4. On paper
5. No, with an AND gate, you cannot convert a 0 input into a 1 output, and with an OR gate, you cannot turn a 1 input into a 0 output.
6. On paper, with 4 2-input NAND gates, you can have the first two inputs go into one gate, the last two inputs go into the second gate, then both of those gates feed into the last NAND gate. The last NAND takes the output and high voltage as input . If any of the inputs are 0, the output will be 0 with both a 4-input gate and 4 2-input gates.
7. Switches physically bounce, so sometimes their input will be off. They also sometimes pick up noise from the environment which will mess with results.
8. A)First attach the wire to Vcc and LD7, and see if it lights up. If it does, it turns on with high voltage. Then, disconnect the wire from Vcc and plug it into ground. The LED should then turn off.

B)You can take the wire and plug it into LD7, then attach it to each of the Switch ports, and turn the switches on and off to see if it turns the LED on (giving a high voltage). The LED should then turn off when the switches are down (giving a low voltage).

Tyler: In this lab I learned how to test different IC’s on a breadboard to see how they acted with different inputs and power amounts. We used switches and a LED to see how each of the IC’s acted. By turning the switches on and off in a specific order, we could determine if the IC acted as an AND gate, an OR gate, or a number of other gates. I also became more familiar with how the Nexys board inputs connect with each other.

Suzie: Today in lab I was able to see concepts I have learned in lecture in action. Using what we learned last lab about the Nexys board and the bread board today, we could worked with logic gates. After figuring out the wiring with the IC, it was a fun challenge to try and use NOR to get its complement. We could test and see whether our method was correct using the switches and input and the LED as out put. I could quickly see if I was right or wrong, clearing up any of my misunderstandings.