CMPE212 Lab 2
9/12/2014

For this lab we will learn how to use the power supply, oscilloscope, and, for those who are ambitious, the function generator. Also, we will connect some chips together to perform basic logic operations.

Part one:
1. Connect the positive and ground of the +6 volt power supply to the breadboard. DO NOT turn on the output of your power supply yet.

2. Connect the VCC of your logic chips to the positive rail of the breadboard. Connect the ground of your logic chips to the ground rail of your breadboard.

3. Place your four switch connector on the breadboard and connect all four paths of the switch to ground.

4. The other side of the four switch connector act as the input to your logic circuit. Now, use these inputs, your AND chip, and your OR chip to construct the ‘fred’ circuit from the slides. The pins for your chip are shown on the images on the next page. An example of how to hook this up is also provided on the next page.

5. Turn on the output of your power supply and set it to +5 volts.

6. Using the oscilloscope, you can check each stage of your circuit to see that it is performing the correct logic.

7. Extra: connect a resistor and LED in series to show off the output of your circuit.

8. Extra: connect the function generator and set a square wave with 2.5 amplitude and 1.25 offset instead of the power supply. Then, try a sine wave.
Part two:

Now that you have a good feel for your input and your AND, OR gates. Construct the simple_ckt example from the slides. Since there are four OR gates on one chip, use only the one chip.

Figure 1 'fred' circuit