Step 1: If you are using the LabVIEW VI on the FEH site, save it to your computer (N or Z drive on a Region 1 engineering computer) , choose "Open VI" when LabVIEW starts and browse to that vi. If you are starting from scratch, choose New, Blank VI, "OK." Note that this is slightly different for LabVIEW 8.0.

It is recommended that if you do not use the provided VI skeleton, you include a while loop in your VI. This will allow you to control the inputs to the circuits without restarting the program.

Step 2: The Boolean logic components are found in the controls palette. Recall from Lab 1 that the controls palette is only available in the block diagram view, and the functions palette is only available in the front panel view. The front panel will always be open. Closing a front panel in LabVIEW closes the VI. A block diagram may or may not be open. **If at any time the block diagram is not open, you may either type "Ctrl-E" or choose "Show Block Diagram" under the Window menu in the title bar.**

The Boolean logic components are found under "Arith/Compare >> Boolean." Do not use the True constant or the False constant. We want ot be able to change the input values, so we will add Boolean controls in the next step.

Step 3: Wire up the logic that you desire. Now you need to create your inputs and outputs. Right click on the terminals to which you wish to add input controls, and choose "Create >> Control." Similarly, for the desired output, Right-click and choose "Create >> Indicator." For the circuits that we are asking you to wire up, you only have one or two inputs, and only one output. If you think you have more than that, you probably have not wired the gates up completely. Changing the names of the inputs and outputs in suggested, so that you can remember which is which.

Step 5: This is a cosmetic step, but will probably make your VI clearer. Navigate to the front panel (or "Ctrl-E"). The default Boolean control buttons are shown. You may easily change them by right clicking and navigating to "Replace >> Buttons" and choose the button you prefer. Similarly for the indicator, you may change it by choosing to "Replace >> LEDs."

You could have created these controls initially in the front panel, before step 3. In the front panel, using the functions palette, you can choose "Buttons" for controls or "LEDs" for indicators. Dragging one onto the front panel, or clicking and placing one on the front panel will also create

one in the block diagram. Try this out. They appear the same in the block diagram as the ones created previously and can be wired up similarly.

For boolean indicators with LED portions (push buttons) it is apparent when the input is true or false. This is not as apparent for rocker, slide or toggle switches it is not as clear. We will add the Boolean text so that we know what the input is at all times. Right-click the Boolean control and choose "Visible Items >> Boolean Text." The default text is "on" and "off" but you can edit this to be, for example, "true" and "false" if desired.

Step 6: Run the VI. Change the inputs and record the corresponding output. You can wire up all the circuits in one block diagram if you want. Make sure to label the corresponding output LEDs for your sake and your graders sake. Use the STOP button **on** the front panel to stop the circuit at any time. This is a better way than the abort button, indicated by a stop sign in the title bar.