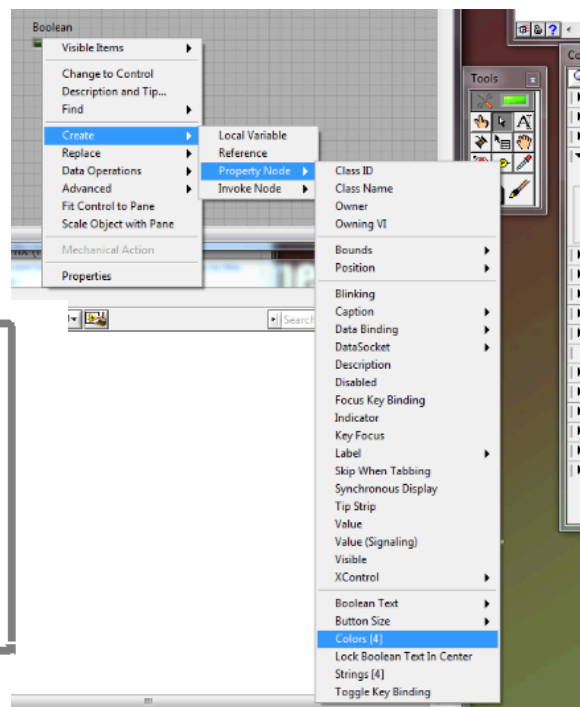
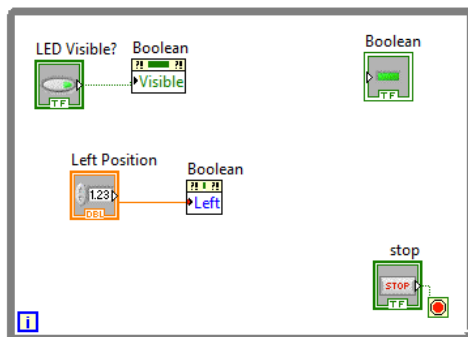
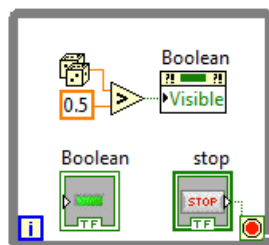
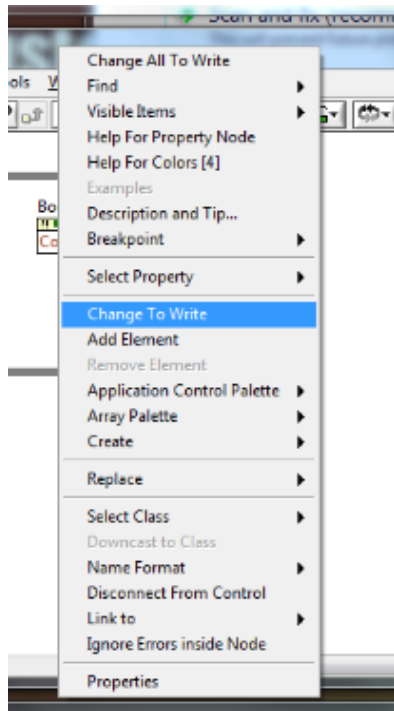


Lecture Notes #5 - 31/January/2012

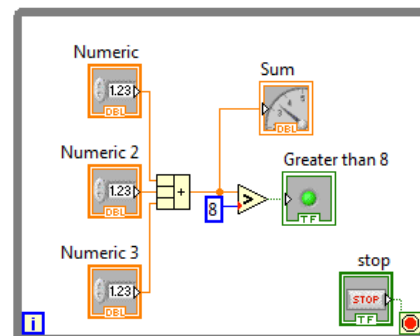
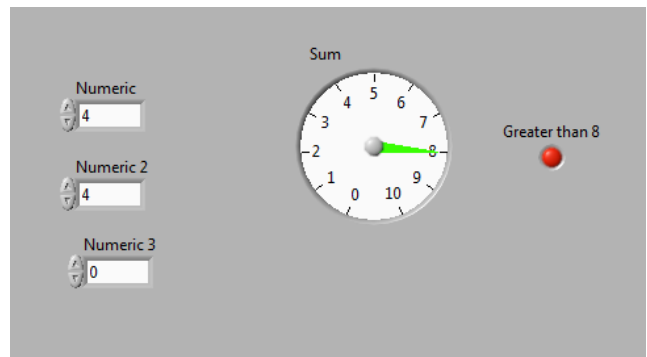
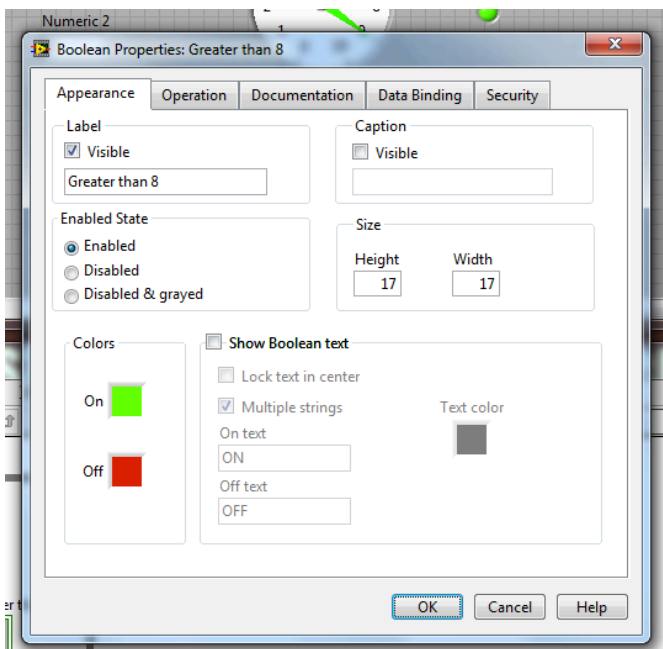
What we covered in class:

- Reminded students to bring DAQ board for next class.
- How to clean a wire and a diagram (page 139).
- Highlight execution (created a cascading sum example).
- Step into / step over buttons (page 146).
 - Created an example with two numeric values feeding the average vi.
 - When in a loop the **step into** button will go inside a sub vi (such as the average vi)
 - When in a loop the **step over** button will step over the sub-vi.
- Breakpoints and probes (page 147).
 - Breakpoints allow us to halt execution at certain locations.
- Property nodes (page 153).
 - Allows us to set the properties and to get properties of objects
 - For example, we can vanish an object from front panel
 - Right-click on object and select Create => Property Node
 - Make sure the property is in “read mode” to add new values.





- Introduced debugging notes.
- Class practice:
 - #1 - Created a VI that takes 5 numbers and display the sum on a gauge. If the sum of inputs is 8 then a LED should be green and the gauge dial should also be green. This activity will make use of the comparison block.



Homework due next class:

- Read pages 141-155 in text.
- Do exercise P3.1 and P3.2 (page 164). For each question submit your virtual instrument (vi) files to manhattan. Homework submitted after 8am on Feb. 2nd will not be graded.

P3.1 - Construct a VI that generates two random numbers (between 0 and 1) and displays both random numbers on meters. Label the meters as random number #1 and random number #2. Make the face of one meter blue and the face of the other meter red. When the value of the random number on the red meter is greater than the random number of the meter with the blue face, have a square LED show green; otherwise have the LED show black.

Note: To change the color in the face of the meter use the coloring stencil in the tool palette.

Hint: You do not have to be fancy. In the front panel right-click on the LED and specify the two colors as being green and black, similarly to our class-activity.

P3.2 - On the front panel create a dial control that goes from 0 to 2 and also create three LED displays: one green, one yellow and one red. Have the VI turn green when the dial is on 0, yellow when the dial is on 1, and red when the dial is on 2.

Note: Make sure the dial ONLY has 3 values (0,1 and 2). This can be adjusted in the properties of the dial. As you recall, the properties of any front-panel object can be adjusted by right-clicking on them.

Hint: You also do not have to be fancy in here too. Just create three LEDs that will have three different colors when they are ON that are not the default ones. In the future we will learn how to have the different colors on the same LED... But not yet!