

## Quiz #1

LabVIEW

Dr. Pogo

Assignment is due in class on Tuesday, September 9, 2008

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### Quiz #1: Colors and Property Nodes. Teams of 1 or 2 are permitted.

- Inputs:** One "Active" button.  
One "Stop" Button  
Three knobs with digital displays.
- Outputs:** One "colorbox" indicator.

Your final program may not use any Color Box Constants, nor any "Select" nodes. The switch should enable/disable the three knobs. The knobs should each control a "component" of the color displayed in the Color Box Indicator (red, green, and blue). The knobs should have appropriately shaded ramps. The knobs should change color according to their individual outputs (e.g., the red knob should become more red as its value increases; the blue knob should become more blue, etc.). The knobs should accept only integer values between 0 and 255, but their visible limits should be 0 to 300.

The Color Box Indicator should show the composite of all 3 color components. The Boolean Text of the "active" button should be red when it is "disabled", and green when it is "active". This button should always initialize to "disabled" when the program is run, and the three knobs should all initialize to zero.

If the output of the three knobs are  $R$ ,  $G$ , and  $B$ , and the final output color is  $C$ , determine an equation for  $C$  in terms of  $R$ ,  $G$ , and  $B$ . Write that equation in a description of the colorbox.

You may work in groups of one or two, but the names of all group members must appear on your front panel.

Your front panel might look like this:

