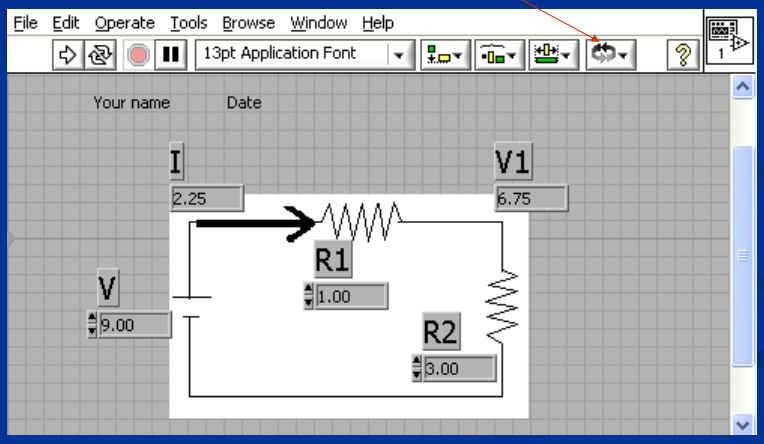
Engin 103
Fall ‘06
Meeting #16: October 24, 2006
Today we completed CW1 and the Circuit Analysis with LabVIEW II: the equations for wiring in the Block Diagram are shown in the link to this lab in the e-syllabus.

LabVIEW Circuit #2 (related to HW3.8)

Step 1
Make a sketch of the circuit shown using Paint, then copy into LabVIEW Front Panel
Put in 3 numeric controls for V and R1 and R2 (type in label after each insert);
2 numeric indicators, one for I, one for V1
To show icons on top of circuit, select circuit, then “reorder”/”move to back”



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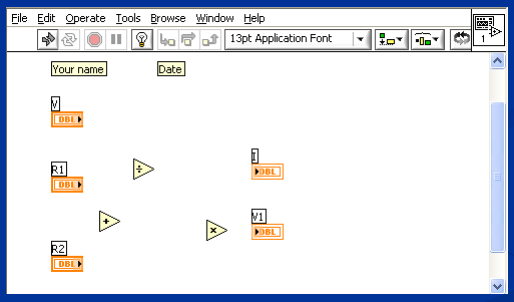
Step 2:
In the Block Diagram arrange the inputs in the left, output in the right, and put in the Needed operations:



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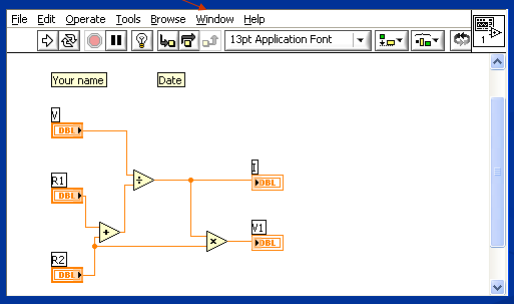
Step 3:

To complete the VI, use the Wiring Tool (in Tools Pallette: Window/Show Tools Palette) to connect the icons



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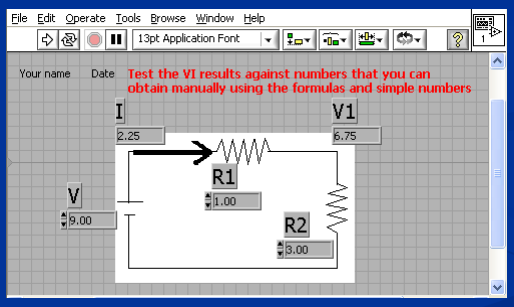
Step 4:

Check the VI's results against numbers you can obtain from the formulas and using "easy numbers" such as V=9V; R1=1 Ohm; R2=3 Ohm, then I=V/(R1+R2)=2.25A and V1=I*R2=6.75V. This may be trivial here, but it is very important to do this check when we work with a larger circuit!



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Suggested items to write in the Engin 103 logbook:

1) What is the engineering field assigned to your team in Project 0? Illustrate the difference between a scientist and an engineer with a specific example comparing an engineer's approach and a related scientist's approach in that field.

2) In Circuit Analysis with LabVIEW II, are "Is" and "V1" numeric controls or numeric indicators, what is the difference on the corresponding icons, what

happens to the wires if you use a numeric control instead of a correct numeric indicator?