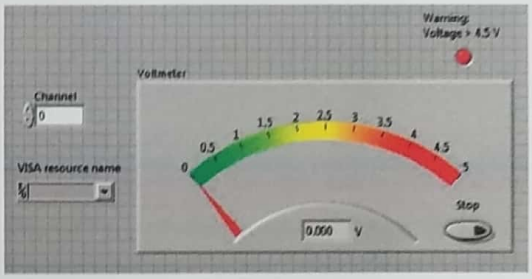
Practice Problem #15
PHY 540 - Spring 2018

Use the following procedure to construct a VI that uses the ADR112 serial board to create a voltmeter to read single-ended 12-bit voltages in the range from 0 to 5V:

1. Use the FP and BD given here as a guide in constructing your VI.
2. Connect the ADR112 serial board to the computer with the USB-to-Serial converter cable.
3. Use one frame of a Flat Sequence Structure on the BD to enclose your voltmeter VI.
4. Construct your VI to take voltage readings every 250 ms with a While Loop on the BD.
5. Display the voltages on the FP with a Numeric indicator and a Meter.
6. Change the scale on the Meter so it represents voltage readings from 0 to 5 V.
7. Set the Numeric Indicator on the FP to read to 3 decimal places.
8. Have an LED on the FP that will light as a warning if the voltage gets greater than 4.5 V.
9. Have a control on the FP to select the computer COM Port.
10. Have a control on the FP to select analog input Channel 0 or 1 on the ADR112 board.
11. Have a stop switch on the FP.
12. Document and create an icon for your VI.
13. Print a copy and save an electronic copy of your VI for your notebook.

Some components you need for this VI are at the following locations:



Instrument I/O >>Serial>>VISA Configure Serial Port
Instrument I/O>>Serial>>VISA Write
Instrument I/O>>Serial>>VISA Read
Instrument I/O>>Serial>>VISA Close
Programming>>Array>>Index Array
Programming>>Strings>>Carriage Return Constant
Programming>>String>>Concatenate Strings
Programming>>Dialog & User Interface>>Simple Error Handler.vi
Programming>>String>>String/Number Conversion>Decimal String to Number
Programming>>Cluster, Class & Variant>>Unbundle By Name
Programming>>Numeric>>Expression Node
Programming>>Numeric>>Conversion>>To Double Precision Float