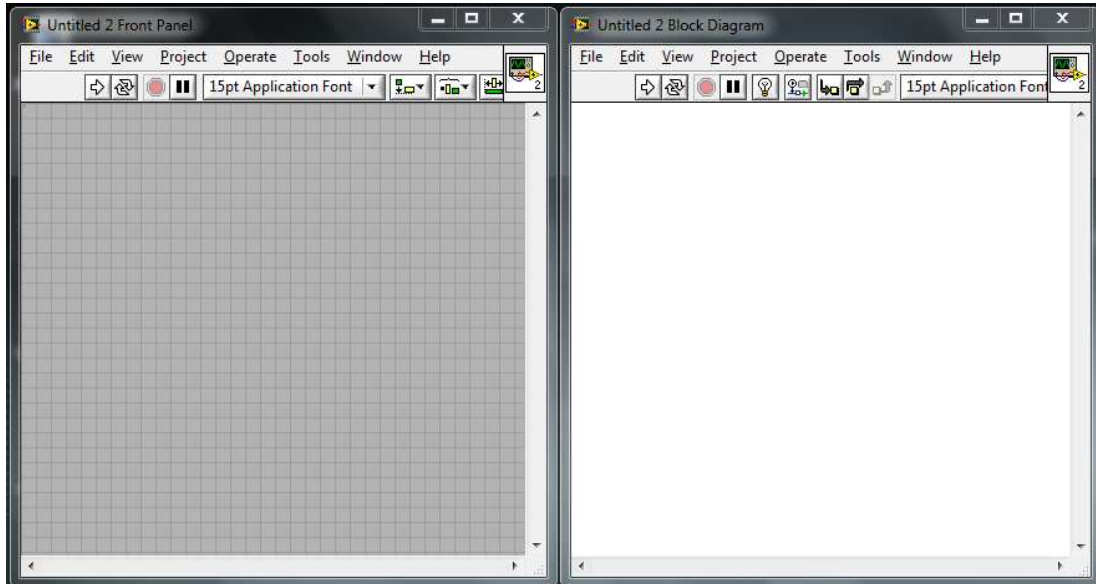




A. New Project

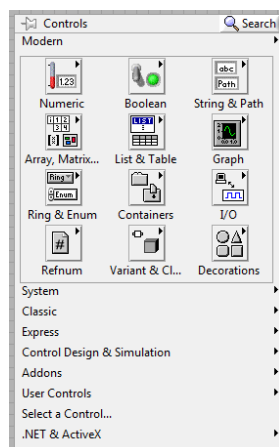
1. invoke LabVIEW and start a new blank VI project
2. press CTRL+T to align the two windows as shown below



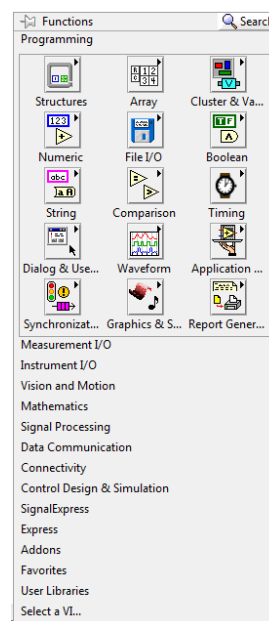
3. the left window is the (front panel) which will you see running when finishing the project, and the right window contains the detailed programming blocks of the project

B. Basic Programming Blocks

1. each window of the project has its own programming palettes which can be displayed with a mouse right-click



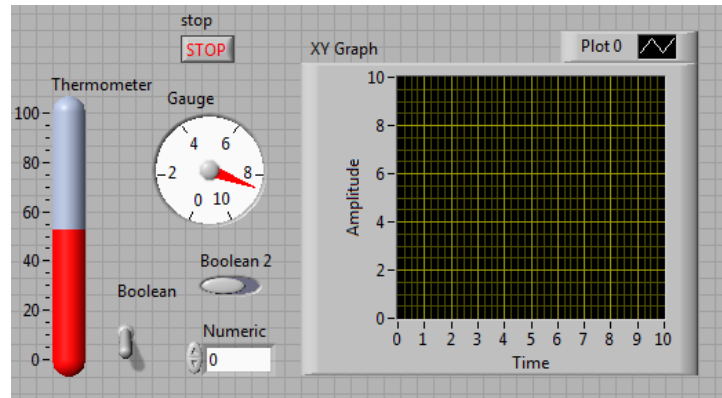
Front Pannel Palettes



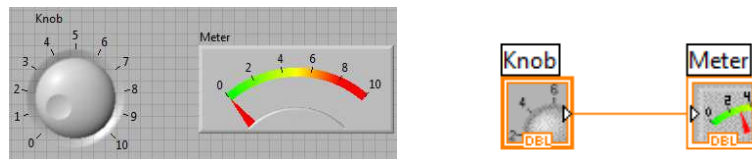
Block Diagram Palettes



- in the front panel, try inserting the following blocks:



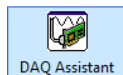
- notice what is happening in the block diagram window whenever you insert a block
- now, get familiar with the different numeric controls and indicators: how to insert them in a proper position, how to size them, set there scales and limits
- build the following simple control-indicator example and wire the control knob to the meter indicator:



- with the mouse on the front panel, turn the knob to point to 5 and click on the run arrow on top of the window
- now click on the continuous run button instead of the single run and rotate the knob
- try inserting a waveform chart from the Graph block and connect it to the knob!

C. USB-6008

- connect the USB-6008 or USB-6009 given to each group to your PC
- in the Block Diagram window, insert a DAQ Assist block under "Measurement I/O → NI-DAQmx → DAQ Assist":



- a wizard will appear that needs to be configured.. we will read an analog input voltage and show it in an indicator (voltmeter example)
- choose "Analog input → Voltage"
- the software will search for the attached hardware and all of its available channels
- there are 8 analog input channels labeled ai_0 to ai_7 , select one of them, but remember where to connect your voltage source to it later in the card
- select the input range from -10V to +10V
- select "On Demand (1 Sample) acquisition mode, and click OK

