**Homework – Virtual Power Supply (Basic Labview 2)**

Labview was introduced previously. For each question, screen capture the front panel and block diagram and upload a video on YouTube showing its operation. Submit your homework as a PDF file with the following name: **homeworkVirtualPowerSupply-firstLastName.pdf** e.g. homeworkVirtualPowerSupply-JohnDoe.pdf

1. Construct a VI that uses a vertical slide control for input and a meter indicator for output display. Find the random number function on the Functions – Numeric palette. When running the VI, any input you provide via the vertical slide will be reflected on the meter indicator. The random number function adds “noise” to the input so that the meter output will not be exactly the same as the input. Run the VI in Run Continuous mode and vary the slide input
2. In this problem you will construct a stop light display. Create a dial control that goes from 0 to 2, with three LED displays: one green, one yellow, and one red. Have the VI turn the LED green when the dial is on 0, yellow when the dial is on 1, and red when the dial is on 2.
3. Create a front panel that has 8 LED indicators and a vertical slider control that is an 8 bit unsigned integer. Display a digital indicator for the slider, and make sure that the LEDs are evenly spaced and aligned at the bottom. The problem is to turn the 8 LEDs into a binary (base 2) representation for the number in the slider. For example, if the slider is set to the number 10 (which in base 2 is 00001010 =$1×2^{3}+1×2^{1}$, the LED’s 1 and 3 should be on. To test your solution, check the number 131. LED’s 0, 1, and 7 should be on since 131 is 10000011 in base 2.
4. Develop a VI that converts an input value in degrees to radians with four digits of precision