Sfwr Eng/TRON 3DX4
LabVIEW Tutorial

Week of Jan. 13, 2014

NOTE: make sure you download a copy of file labSafetyManual3dx4.pdf from the 3DX4 website and study it before this lab session. You will be given a quiz on this material at the start of the lab and will not be allowed to use the lab equipment until you pass the quiz.

Introduction: In this tutorial, you will be working through several LabVIEW modules that can be found on the National Instruments website:

http://www.ni.com/white-paper/7466/en

These modules are organized into sub-modules, which consist of a written tutorial, a video, and an exercise, in addition to one recap exercise for the whole module. Please complete all sub-module and module exercises indicated below. If you are having difficulty with an exercise, first refer to the corresponding tutorial page. If you wish to watch the videos, you will need to do so before coming to the lab as the lab computers will not have speakers.

To get started with a module, click on the module name from the main page of tutorials. This will give a list of the individual items.

Module: LabVIEW Environment

1. Launching LabVIEW
2. Front Panel
3. Block Diagram
4. User Interface
5. Module Exercise

Module: Passing Data and Debugging

1. Wires
2. Data types, Dataflow and Debugging
3. Module Excercise (up to step 13)

Module: Loops

1. For Loops and While Loops
2. Module Exercise

Module: Timing, Structures, and Storing Data

1. Timing VIs, Case Structures, and Shift Registers
2. Module Excercise

Module: Arrays, Clusters, and Text Based Nodes

1. Array and Cluster Functions
2. Module Excercise

Module: Variables

1. Local Variables, Global Variables, and Race Conditions
2. Skip the "module exercises" for this module.