

ECE 5255 Biomedical System Design Fall 2013

Lab 1A LabVIEW Fundamentals

DUE Thursday, 9/5/13

Purpose: This lab exercise gives you practice using LabVIEW while becoming familiar with its fundamental concepts as well as other resources available through National Instruments.

Background:

National Instruments freely provide several LabVIEW tutorials online. Below is a list of the tutorials and the corresponding website addresses.

1. **NI LabVIEW 101: Video Instructions for Students** covers basic concepts and tasks as well as provide quizzes for assessment and links for additional resources such as specific forums. This introductory tutorial is written for specifically for students.
<http://www.ni.com/academic/students/learnlabview/>
2. **Introduction to NI LabVIEW** discusses core concepts, programming, finding examples, and getting help. This tutorial is part of a 4 step Getting Started with NI Products guide.
<http://www.ni.com/gettingstarted/labviewbasics/>
3. **Getting Started with NI LabVIEW Student Training** provides an introduction to basic LabVIEW programming through tutorial, video, and exercises for a previous version LabVIEW 8.5. <http://www.ni.com/white-paper/7466/en>
4. **Unit 2- Fundamentals** is part of multiple unit tutorial found in the Courseware Community. The units are very comprehensive and cover various aspects of LabVIEW as well as DAQ. <https://decibel.ni.com/content/docs/DOC-11557>

In addition, there are several communities and groups that could help with various questions on using LabVIEW. In particular, there are the following.

1. NI Developer Community <https://decibel.ni.com/content/community/zone>
2. NI Educator Community (previously Courseware Community)
<https://decibel.ni.com/content/community/academic/educators>
3. LabVIEW Academic Community (previously Student Community)
<https://decibel.ni.com/content/community/academic>
4. Biomedical User Group <https://decibel.ni.com/content/groups/biomedical-user-group>

Procedure:

For this Lab 1A, you are **required** to complete Lessons 1-4 of Unit 2-Fundamentals found in the Courseware Community. You should also consider other units for own LabVIEW proficiency, especially, Unit 3 Case Structure and Unit 4 DAQ.

To complete Unit 2, watch the videos and follow the example snippets. Create both the Example Snippet and the Practice Problem for each lesson. Use only one front panel and block diagram for all VI creations, that is, after completing the VI, scroll down to find additional unused space on the same front panel or block diagram.

Submission:

As this is a LabVIEW only exercise, individual submission is required. Save your VI as Lab2_Fund_lastname.vi, for example, for Dr. Khuon, the filename would be

Lab1A_LabVIEW_Fund_Khuon.vi

Submit to the digital dropbox under the Labs folder on the course Blackboard website.