

- Preface
- Fundamentals
- 1 Introduction What in the World Is LabVIEW?
 - What Exactly Is LabVIEW, and What Can It Do for Me? Demonstration Examples
 - Wrap it Up! Additional Activities
- 2 Virtual Instrumentation: Hooking Your Computer Up to the Real World
 - The Evolution of LabVIEW
 - What Is Data Acquisition? What Is a GPIB? Communication Using the Serial Port
 - Real-World Applications: Why We Analyze
 - A Little Bit about PXI and VXI
 - Connectivity
 - LabVIEW Add-on Toolkits
 - Wrap It Up!3
- The LabVIEW Environment: Building Your Own Workbench
 - Front Panels
 - Block Diagrams
 - The Icon and the Connector
 - Pull-Down Menus
 - Floating Palettes
 - The Toolbar
 - Pop-Up Menus
 - Help! A Word about SubVIs
 - Activity 3-2: Front Panel and Block Diagram Basics
 - Wrap It Up!4
- LabVIEW Foundations. Creating VisIt's Your Turn Now! Basic Controls and Indicators and the Fun Stuff They Do
 - Wiring Up
 - Running Your VI
 - Useful Tips
 - Wrap It Up! Additional Activities
- 5 Yet More Foundations
 - Loading and Saving VIs
 - VI Libraries
 - Debugging Techniques
 - Creating SubVIs
 - Documenting Your Work
 - A Little about Printing
 - Activity 5-2: Creating SubVIs Practice Makes Perfect
 - Wrap It Up! Additional Activities
- 6 Controlling Program Execution with Structures
 - Two Loops
 - Shift Registers
 - Case Structures
 - Sequence Structures
 - The Formula Node
 - Wrap It Up! Additional Activities

- 7 LabVIEW's Composite Data: Arrays and Clusters
 - What Are Arrays? Creating Array Controls and Indicators
 - Using Auto-Indexing
 - Two-Dimensional Arrays
 - Activity 7-1: Building Arrays with Auto-Indexing
 - Functions for Manipulating Arrays
 - Activity 7-2: Array Acrobatics
 - Polymorphism
 - Activity 7-3: Polymorphism
 - Compound Arithmetic
 - All about Clusters
 - Creating Cluster Controls and Indicators
 - Cluster Order
 - Using Clusters to Pass Data to and from SubVIs
 - Bundling Your Data
 - Replacing a Cluster Element
 - Unbundling Your Clusters
 - Activity 7-4: Cluster Practice
 - Bundling and Unbundling by Name
 - Activity 7-5: More Fun with Clusters
 - Interchangeable Arrays and Clusters
 - Wrap It Up! Additional Activities
- 8 LabVIEW's Exciting Visual Displays: Charts and Graphs
 - Waveform Charts
 - Activity 8-1: Temperature Monitor
 - Graphs
 - Activity 8-2: Graphing a Sine on a Waveform Graph
 - XY Graphs
 - Chart and Graph Components
 - Activity 8-4: Temperature Analysis
 - Intensity Charts and Graphs
 - Color as a Third Dimension
 - Waveforms
 - Wrap It Up! Additional Activities
- 9 Exploring Strings and File I/O
 - More about Strings
 - Using String Functions
 - Activity 9-1: String Construction
 - Parsing Functions
 - Activity 9-2: More String Parsing
 - File Input/Output
 - Activity 9-3: Writing to a Spreadsheet File
 - Activity 9-4: Reading from the Spreadsheet File
 - Wrap It Up! Additional Activities
 - Advanced Topics
 - Introduction to the Advanced Section

- 10 Getting Data into and out of Your Computer: Data Acquisition and Instrument Control
 - Acronyms Unlimited
 - How to Connect Your Computer to the Real World
 - Signals
 - Selecting and Configuring DAQ Measurement Hardware
 - Activity 10-2: Measurement System Analysis
 - Installing the Boards
 - Using a GPIB Board
 - Getting Ready for Serial Communications
 - Wrap It Up! Solutions to Activities
- 11 DAQ and Instrument Control in LabVIEW
 - Definitions, Drivers, and Devices
 - Analog I/O
 - Digital I/O
 - Instrument Control in LabVIEW: VISA, GPIB, and Serial
 - Wrap It Up!
- 12 Advanced LabVIEW Functions and Structures
 - Local and Global Variables
 - Property Nodes
 - Other LabVIEW Goodies
 - Calling Code from Other Languages
 - Fitting Square Pegs into Round Holes: Advanced Conversions and Typecasting
 - Wrap It Up!13
 - Advanced LabVIEW Features
 - Options, Options
 - Configuring Your VI
 - The VI Server
 - Radices and Units
 - Automatically Creating a SubVI from a Section of the Block Diagram
 - A Few More Utilities in LabVIEW
 - Wrap It Up!
- 14 Connectivity in LabVIEW
 - LabVIEW, Networking, and the Internet
 - An Overview of How the Web Works
 - Publishing and Controlling VIs on the Web
 - Sharing Data over the Net