

Getting Started with Arduino, 1st Edition
by Massimo Banzi

Publisher: O'Reilly Media, Inc.
Pub Date: October 15, 2008
Print ISBN-13: 978-0-596-15551-3

Pages: 128
Slots: 1.0

Table of Contents " Index

Copyright
Preface

Chapter 1. Introduction
Section 1.1. Intended Audience
Section 1.2. What Is Physical Computing?

Chapter 2. The Arduino Way
Section 2.1. Prototyping
Section 2.2. Tinkering
Section 2.3. Patching
Section 2.4. Circuit Bending
Section 2.5. Keyboard Hacks
Section 2.6. We Love Junk!
Section 2.7. Hacking Toys
Section 2.8. Collaboration

Chapter 3. The Arduino Platform
Section 3.1. The Arduino Hardware
Section 3.2. The Software (IDE)
Section 3.3. Installing Arduino on Your Computer
Section 3.4. Installing Drivers: Macintosh
Section 3.5. Installing Drivers: Windows
Section 3.6. Port Identification: Macintosh
Section 3.7. Port Identification: Windows

Chapter 4. Really Getting Started with Arduino
Section 4.1. Anatomy of an Interactive Device
Section 4.2. Sensors and Actuators
Section 4.3. Blinking an LED
Section 4.4. Pass Me the Parmesan
Section 4.5. Arduino Is Not for Quitters
Section 4.6. Real Tinkerers Write Comments
Section 4.7. The Code, Step by Step
Section 4.8. What We Will Be Building

Section 4.9. What Is Electricity?
Section 4.10. Using a Pushbutton to Control the LED
Section 4.11. How Does This Work?
Section 4.12. One Circuit, A Thousand Behaviours

Chapter 5. Advanced Input and Output
Section 5.1. Trying Out Other On/Off Sensors
Section 5.2. Controlling Light with PWM
Section 5.3. Use a Light Sensor Instead of the Pushbutton
Section 5.4. Analogue Input
Section 5.5. Try Other Analogue Sensors
Section 5.6. Serial Communication
Section 5.7. Driving Bigger Loads (Motors, Lamps, and the Like)
Section 5.8. Complex Sensors

Chapter 6. Talking to the Cloud
Section 6.1. Digital Output
Section 6.2. Planning
Section 6.3. Coding
Section 6.4. Assembling the Circuit
Section 6.5. Here's How to Assemble It:

Chapter 7. Troubleshooting
Section 7.1. Understanding
Section 7.2. Testing the Board
Section 7.3. Testing Your Breadboarded Circuit
Section 7.4. Isolating Problems
Section 7.5. Problems with the IDE
Section 7.6. How to Get Help Online

Appendix A. The Breadboard
Appendix B. Reading Resistors and Capacitors
Appendix C. Arduino Quick Reference
Section C.1. STRUCTURE
Section C.2. SPECIAL SYMBOLS
Section C.3. CONSTANTS
Section C.4. VARIABLES
Section C.5. CONTROL STRUCTURES
Section C.6. ARITHMETIC AND FORMULAS
Section C.7. COMPARISON OPERATORS
Section C.8. BOOLEAN OPERATORS
Section C.9. COMPOUND OPERATORS
Section C.10. INPUT AND OUTPUT FUNCTIONS
Section C.11. TIME FUNCTIONS
Section C.12. MATH FUNCTIONS
Section C.13. RANDOM NUMBER FUNCTIONS
Section C.14. SERIAL COMMUNICATION
Appendix D. Reading Schematic Diagrams