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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Programming and the Arduino IDECompiler; Circuitry; Solderless Breadboard; Review; Design Cycle; Organization of the Book; Things You Will Need to Get Started; Beginner; Intermediate; Advanced; Purchasing Parts; Conclusion; 2: Introduction to Programming; What Is a Programming Language?; Why the C Language?; Getting Started; Writing Your First Sketch; Error Messages; Uploading a Program; "Hello, world!" in Detail; Functions; Serial Output; Adding Comments; Code Improvisation; Variables, Data Types, and Operators; Initializing Variables; Operators; Code Improvisation; Data Types; Bits Signed and Unsigned Data TypesUniversal Data Types; Constants; Enumerations; Comparison Operators and Control Structures; "If" Statements; Boolean Operators; Switch Statements; Code Improvisation; Control Loops; While Loop; Do While Loop; For Loop; Endless Loops; Practical Application; Code Improvisation; Writing a First Function; Function Parameters; Using a Custom Function; A First Sketch Involving Hardware; Introduction to Arrays; Array Syntax; Array Initialization; The Ugly Truth: Working with Text in C; String Literals; Character Arrays; An Easier Way: Using the String Class

String Class ExampleA Complete Demonstration Program; Playing the Tempo Game; Setup; newGame() Function; Helper Functions; Main loop(); Conclusion; 3: Introduction to Electronics; Overview; Pep Talk; Safety Warning; Tools and Process; A First Circuit; 9V Battery; SPST Switch; Resistor; LED; Using a Breadboard; A First Breadboard Project; Ohm's Law; Conceptualizing Voltage, Current, and Resistance; Using Ohm's Law; Units of Measurement; Practical Example of Ohm's Law; Using a Digital Multimeter; Measuring Voltage; A Few Words About Ground; Measuring Current; Measuring Resistance
Series CircuitParallel Circuit; A Word About Resistor Color Codes; Safety Diode and Potentiometer; Emergency Music Stand Light; Transistors; Incorporating a Photoresistor and Transistor; Cigar Box Amplifier; Operational Amplifier; Capacitors; Calculating Capacitance; Parallel Circuit; Series Circuit; Connecting an Audio Signal to the Amplifier; Completed Project; Simple Theremin; Hex Inverter; Phase-Locked Loop IC; Mocking Up the Simple Theremin; Conclusion; 4: Interfacing with Arduino; Overview of Arduino UNO; A Caution; Overview of the Metronome Project; Metronome with Speaker
Metronome with Potentiometer

Sommario/riassunto

The Arduino platform provides a virtually limitless range of creative opportunities to musicians who are interested to explore new technologies. In Arduino for Musicians, Brent Edstrom provides a comprehensive guide to the underlying technologies enabling the creation of custom instruments that respond to light, touch, breath, and other forms of control.