1. Record Nr. UNINA9910438101903321

Autore	Kelly James F (James Floyd)
Titolo	Arduino adventures : escape from Gemini Station / / James Floyd Kelly, Harold Timmis
Pubbl/distr/stampa	[New York], : Apress, 2013
ISBN	9781430246060 1430246065
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (332 p.)
Altri autori (Persone)	TimmisHarold
Disciplina	005.1 629.895
Soggetti	Arduino (Programmable controller) Computer software
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Title Page; Copyright Page; Contents at a Glance; Table of Contents; About the Authors; About the TechnicalReviewers; Acknowledgments; Introduction; What Is Arduino Adventures?; Will I Be an Arduino Guru When I'm Done?; What Skills Do I Need?; How is the Book Organized?; Do I Need to Understand Electronics?; Do I Need to Know How to Solder?; What Do I Need Besides This Book?; What Do I Need For the First Challenge?; Chapter 1 Trouble at Gemini Station; Trouble Begins; On the Level, or Not?; Andrew 5.0; Boom!; Escape, or Not; A Plan; Chapter 2 Challenge 1: Fun Stuff to Know What Is an Arduino?Giving an Arduino a Job to Do; Installing the Software; Things to Watch for on Windows; The Development Environment; Ready to Build Something?; Chapter 3 Challenge 1: Examining the Hardware; Locating the Parts You'll Need; Potentiometer; Solderless Breadboard; The Arduino Uno; Wire; Let's Build Gizmo #1; What's Next?; Chapter 4 Challenge 1: Examining the Software; The Arduino IDE; The Challenge #1 Sketch; Beginning the Sketch; Configuring the Serial Port; Listening on the Serial Port; Translating the Input into Digits; Displaying the Result; Solving Challenge #1 Chapter 5 Damage AssessmentThe Face of Andrew; An Embarrassed Cade; The Unlocking; Chapter 6 Challenge 2: Fun Stuff to Know; Let's Look at a Battery; And Now a Circuit; Current Flow; Ready to Build

Something?; Chapter 7 Challenge 2: Examining the Hardware; The Push Button; The Light Emitting Diode; The Resistor; Let's Build Gizmo #2; What's Next?; Chapter 8 Challenge 2: Examining the Software; Functions Explained; The Challenge 2 Sketch; Solve Challenge #2; Chapter 9 Feeling The Heat; On a Pedestal; Chutes and Ladders; Green-eyed Hatches; Chapter 10 Challenge 3: Fun Stuff to Know
Looking at the Temperature SensorReady to Build Something?; Chapter 11 Challenge 3: Examining the Hardware; What Is a Sensor?; Let's Build Gizmo 3!; Chapter 12 Challenge 3: Examining the Software; The Conditional If-Else Statement; The Challenge #3 Sketch; Solve Challenge #3; Chapter 13 Uninvited Guest; Upward; Spooky?; Urgency!; Danger!; Bucket; Chapter 14 Challenge 4: Fun Stuff to Know; Looking at the Bucket Mover; Understanding the ICs; Ready to Build Something?; Chapter 15 Challenge 4: Examining the Hardware; New Hardware; Let's Build Gadget #4
Chapter 16 Challenge 4: Examining the SoftwareThe Challenge 4 Sketch; Breaking It Down; Solve Challenge 4; Chapter 17 Hide and Seek; The Crossing; Five Minutes!; Run!; Walk; Chapter 18 Challenge 5: Fun Stuff to Know; Let's Look at the Challenge 5 Gizmo; Ready to Build Something?; Chapter 19 Challenge 5: Examining the Hardware; A Closer Look at the PIR Sensor; Let's Build The Challenge 5 Gizmo; Chapter 20 Challenge 5: Examining the Software; Thinking Through the Solution; Understanding the Tone Function; The Challenge #5 Sketch; Solve Challenge #5; Chapter 21 Carousel Ride; Close Call
Nothing To See Here

Sommario/riassunto

Arduino Adventures: Escape from Gemini Station provides a fun introduction to the Arduino microcontroller by putting you (the reader) into the action of a science fiction adventure story. You'll find yourself following along as Cade and Elle explore Gemini Station—an orbiting museum dedicated to preserving and sharing technology throughout the centuries. Trouble ensues. The station is evacuated, including Cade and Elle's class that was visiting the station on a field trip. Cade and Elle don’t make it aboard their shuttle and are trapped on the station along with a friendly artificial intelligence named Andrew who wants to help them get off the damaged station. Using some old hardware, a laptop, and some toolboxes full of electronics parts, you will follow along and build eight gizmos with Cade and Elle that will help them escape from Gemini Station. The hardware is Arduino. Each new challenge opens a new area of Arduino and basic electronics knowledge. You’ll be taken incrementally from a simple task such as turning on a light through to a complex combination of microcontroller, electronic components, and software programming. By the end of the book you’ll be well on your way towards being able to create and implement any sort of electronically controlled device you can imagine, using the stunningly popular Arduino microcontroller. Provides eight challenges, each challenge increasing in complexity Builds around a fictional storyline that keeps the learning fun Leaves you on a solid foundation of electronic skills and knowledge.