controller area network can is a serial network technology that was originally designed for the automotive industry but has also become a popular bus in industrial automation the can bus is primarily used in embedded solutions and provides communication among microprocessors up to real time requirements a comprehensible guide to controller area network represents a very thoroughly researched and complete work on can it provides information on all can features and aspects combined with high level of readability book super potato is kidnapped by zort a space slug who collects rare creatures from across the galaxy but with the help of zort s put upon robot helper super potato stages an outer space jailbreak the book presents laboratory experiments concerning arm microcontrollers and discusses the architecture of the tiva cortex m4 arm microcontrollers from texas instruments describing various ways of programming them given the meager peripherals and sensors available on the kit the authors describe the design of padma a circuit board with a large set of peripherals and sensors that connects to the tiva launchpad and exploits the tiva microcontroller family s on chip features arm microcontrollers which are classified as 32 bit devices are currently the most popular of all microcontrollers they cover a wide range of applications that extend from traditional 8 bit devices to 32 bit devices of the various arm subfamilies cortex m4 is a middle level microcontroller that lends itself well to data acquisition and control as well as digital signal manipulation applications given the prominence of arm microcontrollers it is important that they should be incorporated in academic curriculums however there is a lack of up to date teaching material textbooks and comprehensive laboratory manuals in this book each of the microcontroller s resources digital input and output timers and counters serial communication channels analog to digital conversion interrupt structure and power management features are addressed in a set of more than 70 experiments to help teach a full semester course on these microcontrollers beyond these physical interfacing exercises it describes an inexpensive bob breakout board that allows students to learn how to design and build standalone projects as well a number of illustrative projects the history of python kicked off when guido van rossum the founder of python started working on it in the late 1980s python is the successor of the abc programming language the first python version was released back in 1991 and has only grown exponentially since then it now has a vast community that releases the latest updates regularly guido van rossum is also known as the benevolent dictator for life this title was given to him by the python community to honor him for his long term commitment and dedication to the project and for being the project leader for such a long period python is a high level interpreted programming language that is used throughout the world for general purpose programming it is an open source programming language licensed by both the free software foundation fsf and open source initiative osi like some other programming languages its source code is also available under the gnu general public license gpl python 2 x being the legacy version was used earlier across the globe it stopped receiving newer features and security updates after python 2 7 so people migrated to python version 3 x throughout this book we will be focusing more on the python 3 x version which is the latest and is currently in active development before we proceed further i would like to inform you all that the purpose of writing this book is to make your understanding of python clearer by explaining technical terms in layman s language with the help of code snippets and practical examples i also wanted to make sure that the reader does not feel bored while reading the book so i ll be adding some attractive code snippets that are appealing to the eyes printed circuit boards pcb are at the heart of every electronic product manufactured today yet engineers rarely learn to design pcbs from a class or course they learn it by doing by reading app notes watching youtube videos and sitting by the side of an experienced engineer this book is written for you
foundation building book for all engineers starting out to design pcbs it teaches good habits designing a pcb first for connectivity and secondly introduces the four most important principles to reduce noise a seven step process is presented developing a plan of record creating a bill of materials completing the schematic completing the layout completing the assembly conducting bring up and troubleshooting and documenting the project each step is developed in detail in particular the emphasis in this book is on risk management what can be done at each step of the process to reduce the risk of a hard error which requires a complete re spin or a soft error which requires some sort of on the fly repair after connectivity is designed it's important to develop good habits to minimize the potential noise from ground bounce power rail stitching noise stack up design and reducing switching noise in signal paths these techniques apply to all designs from 2 layer to 8 layer and more for bandwidths below 200 mhz the best practices for manual lead free soldering are presented so that everyone can become a soldering expert the best measurement practices using common lab instruments such as the dmm the constant current constant voltage power supply and oscilloscopes are presented so that common artifacts are minimized features in the design that help you find design or assembly errors quickly and the troubleshooting techniques to find and fix problems are introduced applying the habits presented in this book will help every engineer design their next circuit board faster with less chance of an unexpected problem with the lowest noise this textbook will also have embedded videos to visually demonstrate many of the hands on processes introduced in this book it's the end of the summer which means one thing color war time color war is the event of the summer a massive camp wide competition the camp is divided into two teams blue and white with upper campers vying for the envied spot of lieutenant a team leader position jenny assumes she's got lieutenant in the bag being a popular girl and all and play dough sure hopes he does too members of his family have been white team lieutenants for generations but when assignments are announced both are in for a surprise play dough s a lieutenant all right for the enemy blue team and jenny isn't lieutenant at all so who is jamie jenny's sidekick with the entire camp amping up for an all out war can jenny and play dough overcome expectations and lead their teams to victory a collection of 16 fascinating scientific and technical projects to build with parts from the lego mindstorms ev3 robotics set and other components a great addition to any stem curriculum or home library high tech lego hijacks the mindstorms ev3 revolution showing you how to build creative technical inventions with practical applications you'll learn to build a dynamic array of working devices for outdoor research home security spycraft and more among the book's 16 fascinating projects you'll find a motion activated animal cam a morse code transmitter a laser security fence a motion sensing radar detector an automated insect trapper and a heat seeking infrared cannon welcome to a whole new world of building every project brings together science mechanics electronics optics and software to create complex instruments for studying and measuring the world around you all while maintaining the playful nature of lego each easy to follow model combines illustrated instructions with step by step guidance on the engineering methods at play as you build you'll learn illegal modding techniques that may include drilling cutting and soldering shh different ways to work with diode laser modules tricks for modifying ev3 sensors and motors the joy of hacking lego light bricks to make a flickering fireplace how to use mindstorms to build your own contraptions experiment on your own and expand on your finished creations make a few adjustments so the critter cam triggers an alarm to scare away pests or modify the doppler radar to detect flammable gases the possibilities are endless requirements lego mindstorms ev3 home edition windows vista or higher macos 10.14 or earlier in depth instruction and practical techniques for building with the beaglebone embedded linux platform exploring beaglebone is a hands on guide to bringing gadgets gizmos and robots to life using the popular beaglebone embedded linux platform comprehensive content and deep detail provide more than just a beaglebone instruction manual you'll also learn the underlying engineering techniques that will allow you to create your own projects the book begins with a foundational primer on essential skills and then
gradually moves into communication control and advanced applications using C and allowing you to learn at your own pace in addition the book's companion website features instructional videos source code discussion forums and more to ensure that you have everything you need the beaglebone's small size high performance low cost and extreme adaptability have made it a favorite development platform and the Linux software base allows for complex yet flexible functionality the beaglebone has applications in smart buildings robot control environmental sensing to name a few and expansion boards and peripherals dramatically increase the possibilities exploring beaglebone provides a reader friendly guide to the device including a crash course in computer engineering while following step by step you can get up to speed on embedded Linux electronics and programming master interfacing electronic circuits buses and modules with practical examples explore the internet connected beaglebone and the beaglebone with a display apply the beaglebone to sensing applications including video and sound explore the beaglebone's programmable real time controllers hands on learning helps ensure that your new skills stay with you allowing you to design with electronics modules or peripherals even beyond the beaglebone insightful guidance and online peer support help you transition from beginner to expert as you master the techniques presented in exploring beaglebone the practical handbook for the popular computing platform because i'm your dad you can have spaghetti for breakfast french toast for dinner and rocky road ice cream in the bathtub in a text that's both playful and loving a father expresses his hopes and dreams for a one of a kind relationship with his child whimsical monster characters bring the silly and sweet scenes to life and keep the book universal the book's ending a moving tribute to the author's father guarantees intergenerational appeal because i'm your dad i will do all of these things for you and more because that's what my dad did for me pic microcontrollers are a favorite in industry and with hobbyists these microcontrollers are versatile simple and low cost making them perfect for many different applications the 8 bit pic is widely used in consumer electronic goods office automation and personal projects author dogan ibrahim author of several pic books has now written a book using the PIC18 family of microcontrollers to create projects with SD cards this book is ideal for those practicing engineers advanced students and pic enthusiasts that want to incorporate SD cards into their devices SD cards are cheap fast and small used in many MP3 players digital and video cameras and perfect for microcontroller applications complete with microchip's C18 student compiler and using the C language this book brings the reader up to speed on the PIC18 and SD cards knowledge which can then be harnessed for hands on work with the eighteen projects included within two great technologies are brought together in this one practical real world hands on cookbook perfect for a wide range of PIC fans eighteen fully worked SD projects in the C programming language details memory cards usage with the PIC18 family this book introduces readers to building wearable electronics projects using Adafruit's tiny Flora board at 4.4 grams and only 1.75 inches in diameter and featuring Arduino compatibility it's the most beginner friendly way to create wearable projects this book shows you how to plan your wearable circuits sew with electronics and write programs that run on the flora to control the electronics the flora family includes an assortment of sensors as well as RGB LEDs that let you add lighting to your wearable projects a RPG tabletop rendition for testing breakout scenarios in various SCP foundation facilities this rulebook contains everything needed to run a tabletop pen and paper breakout horror adventure the go to guide to getting started with the BBC micro bit and exploring all of its amazing capabilities the BBC micro bit is a pocket sized electronic development platform built with education in mind it was developed by the BBC in partnership with major tech companies communities and educational organizations to provide kids with a fun easy inexpensive way to develop their digital skills with it kids and grownups can learn basic programming and coding while having fun making virtual pets developing games and a whole lot more written by internationally best-selling tech author gareth halfacree and endorsed by the microbit foundation the official BBC micro bit user guide contains what you need to get up and running fast with the BBC micro bit and more
everything from taking your first steps with the BBC Micro Bit to writing your own programs you’ll also learn how to expand its capabilities with add-ons through easy to follow step by step instructions set up your BBC micro bit and develop your digital skills write code in JavaScript blocks javascript and Python discover the BBC micro bit’s built-in sensors connect the BBC micro bit to a Raspberry Pi to extend its capabilities build your own circuits and create hardware the official BBC micro bit user guide is your go to source for learning all the secrets of the BBC micro bit whether you’re just beginning or have some experience this book allows you to dive right in and experience everything the BBC micro bit has to offer told in letters poems text messages news stories and comics a series of documents Nora collects for the wolf creek community time capsule project Breakout is a thrilling story that will leave readers thinking about who’s really welcome in the places we call home Nora Tucker is looking forward to summer vacation in Wolf Creek two months of swimming popsicles and brushing up on her journalism skills for the school paper but when two inmates break out of the town’s maximum security prison everything changes doors are locked helicopters fly over the woods and police patrol the school grounds everyone is on edge and fear brings out the worst in some people Nora has known her whole life even if the inmates are caught she worries that home might never feel the same a mighty girl best book of the year if you are an Android app developer who wants to experiment with the hardware capabilities of the BeagleBone Black platform then this book is ideal for you you are expected to have basic knowledge of developing Android apps but no prior hardware experience is required discover all the amazing things you can do with Arduino Arduino is a programmable circuit board that is being used by everyone from scientists programmers and hardware hackers to artists designers hobbyists and engineers in order to add interactivity to objects and projects and experiment with programming and electronics this easy to understand book is an ideal place to start if you are interested in learning more about Arduino’s vast capabilities featuring an array of cool projects this Arduino beginner guide walks you through every step of each of the featured projects so that you can acquire a clear understanding of the different aspects of the Arduino board introduces Arduino basics to provide you with a solid foundation of understanding before you tackle your first project features a variety of fun projects that show you how to do everything from automating your garden’s watering system to constructing a keypad entry system installing a tweeting cat flap building a robot car and much more provides an easy hands on approach to learning more about electronics programming and interaction design for makers of all ages Arduino Projects for Dummies is your guide to turning everyday electronics and plain old projects into incredible innovations get connected to find out more about Brock Craft and his recent Arduino creations visit facebook.com/arduinoprojectsfordummies James Murphy is a Marine Corps sniper he’s done two tours in Afghanistan he’s considered an American hero and James is out for revenge Alejandro Rocha a massively powerful drug kingpin who operates out of La Paz Mexico is responsible for James’ sister Layla’s death and he intends to make Rocha pay for it. James goes AWOL from his unit and travels to Mexico ready to enact bloody vengeance but before he can go through with his plan he is arrested by the crooked police of La Paz he’s quickly thrown into a dangerous prison on trumped up charges he knows he is marked for death while in this prison and there’s nothing he can do about it however there is a group of people who can do something about it discovering that James is wasting away in a Mexican prison the Marines in his unit decide to risk court martial themselves and go AWOL as well ready to go to war in order to bring James out of prison and go after Alejandro. How can we build bridges from the digital world of the internet to the analog world that surrounds us by bringing accessibility to embedded components such as sensors and microcontrollers javascript and Node.js might shape the world of physical computing as they did for web browsers this practical guide shows hardware and software engineers makers and web developers how to talk in javascript with a variety of hardware platforms authorsPatrick Mulder and Kelsey Breseman also delve into the basics of microcontrollers single-board computers and other hardware components use Javascript to program
microcontrollers with arduino and espruino prototype iot devices with the tessel 2 development platform learn about electronic input and output components including sensors connect microcontrollers to the internet with the particle photon toolchain run node.js on single board computers such as raspberry pi and intel edison talk to embedded devices with node.js libraries such as johnny five and remotely control the devices with bluetooth use mqtt as a message broker to connect devices across networks explore ways to use robots as building blocks for shared experiences in depth instruction and practical techniques for building with the beaglebone embedded linux platform exploring beaglebone is a hands on guide to bringing gadgets gizmos and robots to life using the popular beaglebone embedded linux platform comprehensive content and deep detail provide more than just a beaglebone instruction manual you ll also learn the underlying engineering techniques that will allow you to create your own projects the book begins with a foundational primer on essential skills and then gradually moves into communication control and advanced applications using c/c allowing you to learn at your own pace in addition the book s companion website features instructional videos source code discussion forums and more to ensure that you have everything you need the beaglebone s small size high performance low cost and extreme adaptability have made it a favorite development platform and the linux software base allows for complex yet flexible functionality the beaglebone has applications in smart buildings robot control environmental sensing to name a few and expansion boards and peripherals dramatically increase the possibilities exploring beaglebone provides a reader friendly guide to the device including a crash course in computer engineering while following step by step you can get up to speed on embedded linux electronics and programming master interfacing electronic circuits buses and modules with practical examples explore the internet connected beaglebone and the beaglebone with a display apply the beaglebone to sensing applications including video and sound explore the beaglebone s programmable real time controllers updated to cover the latest beagle boards linux kernel versions and linux software releases includes new content on linux kernel development the linux remote processor framework can bus iot frameworks and much more hands on learning helps ensure that your new skills stay with you allowing you to design with electronics modules or peripherals even beyond the beaglebone insightful guidance and online peer support help you transition from beginner to expert as you master the techniques presented in exploring beaglebone the practical handbook for the popular computing platform product development is the magic that turns circuitry software and materials into a product but moving efficiently from concept to manufactured product is a complex process with many potential pitfalls this practical guide pulls back the curtain to reveal what happens or should happen when you take a product from prototype to production for makers looking to go pro or product development team members keen to understand the process author alan cohen tracks the development of an intelligent electronic device to explain the strategies and tactics necessary to transform an abstract idea into a successful product that people want to use learn 11 deadly sins that kill product development projects get an overview of how electronic products are manufactured determine whether your idea has a good chance of being profitable narrow down the product s functionality and associated costs generate requirements that describe the final product s details select your processor operating system and power sources learn how to comply with safety regulations and standards dive into development from rapid prototyping to manufacturing alan cohen a veteran systems and software engineering manager and lifelong technophile specializes in leading the development of medical devices and other high reliability products his passion is to work with engineers and other stakeholders to forge innovative technologies into successful products with arduino you can build any hardware project you can imagine this open source platform is designed to help total beginners explore electronics and with its easy to learn programming language you can collect data about the world around you to make something truly interactive the arduino inventor s guide opens with an electronics primer filled with essential background knowledge and will fill your diy journey from here you ll learn every step at a time
the arduino through a classic hardware entry point blinking leds over the
course of the book 11 hands on projects will teach you how to build a
stop light with leds display the volume in a room on a warning dial
design and build a desktop fan create a robot that draws with a motor and pens create a servo controlled balance beam build your own playable mini piano make a drag race timer to race toy cars against your friends each project focuses on a new set of skills including breadboarding circuits reading digital and analog inputs reading magnetic temperature and other sensors controlling servos and motors and talking to your computer and the with an arduino at the end of every project you ll also find tips on how to use it and how to mod it with additional hardware or code what are you waiting for start making and learn the skills you need to own your technology uses the arduino uno board or sparkfun redboard beginning sensor networks with arduino and raspberry pi teaches you how to build sensor networks with arduino raspberry pi and xbee radio modules and even shows you how to turn your raspberry pi into a mysql database server to store your sensor data first you ll learn about the different types of sensors and sensor networks including how to build a simple xbee network then you ll walk through building an arduino based temperature sensor and data collector followed by building a raspberry pi based sensor node next you ll learn different ways to store sensor data including writing to an sd card sending data to the cloud and setting up a raspberry pi mysql server to host your data you even learn how to connect to and interact with a mysql database server directly from an arduino finally you ll learn how to put it all together by connecting your arduino sensor node to your new raspberry pi database server if you want to see how well arduino and raspberry pi can get along especially to create a sensor network then beginning sensor networks with arduino and raspberry pi is just the book you need learn essential concepts and techniques to build simple to advanced projects and overcome common programming challenges in micro bit development beginning bbc micro bit will take you through the complete features and capabilities of the micro bit controller enabling you to program and build your own projects the uses are endless for the micro bit and this books will help get you started on building your next project with this popular and easy to use microcontroller you ll use online python editor and mu editor to build your own applications reviewed by the micro bit developer team this comprehensive guide also provides clean code examples to help you learn the key concepts behind the micro bit api what you ll learn work with the various kits and accessories master the micro bit development platform with easy to follow examples and clean code build your own micro bit applications using an online python editor and mu editor use the on board led matrix built in buttons i o pins accelerometer and compass learn how to connect and communicate with devices through i2c spi and uart build applications with music and speech libraries use local persistent file system to store and manipulate files build applications based on wired and radio networks use micro bit and micro bit blue apps who this book is for beginners those already experienced with electronics and hobbyists at all levels looking to get started with a new microcontroller want to create devices that interact with the physical world this cookbook is perfect for anyone who wants to experiment with the popular arduino microcontroller and programming environment you ll find more than 200 tips and techniques for building a variety of objects and prototypes such as iot solutions environmental monitors location and position aware systems and products that can respond to touch sound heat and light updated for the arduino 1 8 release the recipes in this third edition include practical examples and guidance to help you begin expand and enhance your projects right away whether you re an engineer designer artist student or hobbyist get up to speed on the arduino board and essential software concepts quickly learn basic techniques for reading digital and analog signals use arduino with a variety of popular input devices and sensors drive visual displays generate sound and control several types of motors connect arduino to wired and wireless networks learn techniques for handling time delays and time measurement apply advanced coding and memory handling techniques build sensor networks with python and micropython using xbee radio modules raspberry pi and arduino boards this revised and updated edition will put all of these together to form a sensor network platform that you can build
to turn your raspberry pi into a mysql database server to store your sensor data you'll review the different types of sensors and sensor networks along with new technology including how to build a simple xbee network you'll then walk through building an sensor nodes on the xbee raspberry pi and arduino and also learn how to collect data from multiple sensor nodes the book also explores different ways to store sensor data including writing to an sd card sending data to the cloud and setting up a raspberry pi mysql server to host your data you'll even learn how to connect to and interact with a mysql database server directly from an arduino finally you'll see how to put it all together by connecting your sensor nodes to your new raspberry pi database server if you want to see how well xbee raspberry pi and arduino can get along especially to create a sensor network then beginning sensor networks with xbee raspberry pi and arduino is just the book you need what you'll learn includes readers interested in using xbee modules with raspberry pi and arduino those interested in controlling xbee modules with micropython this book focuses on rfid radio frequency identification iot internet of things and wsn wireless sensor network it includes contributions that discuss the security and privacy issues as well as the opportunities and applications that are tightly linked to sensitive infrastructures and strategic services this book addresses the complete functional framework and workflow in iot enabled rfid systems and explores basic and high level concepts it is based on the latest technologies and covers the major challenges issues and advances in the field it presents data acquisition and case studies related to data intensive technologies in rfid based iot and includes wsn based systems and their security it can serve as a manual for those in the industry while also helping beginners to understand both the basic and advanced aspects of iot based rfid related issues this book can be a premier interdisciplinary platform for researchers practitioners and educators to present and discuss the most recent innovations trends and concerns as well as practical challenges encountered and find solutions that have been adopted in the fields of iot and analytics national bestseller the great escape for the great war the astonishing true story of two world war i prisoners who pulled off one of the most ingenious escapes of all time finalist for the edgar award one of the best books of the year the washington post npr fox unspools jones and hill's delightfully elaborate scheme in nail biting episodes that advance like a narrative rube goldberg machine the new york times book review imprisoned in a remote turkish pow camp during world war i having survived a two month forced march and a terrifying shootout in the desert two british officers harry jones and cedric hill join forces to bamboozle their iron fisted captors to stave off despair and boredom jones takes a handmade ouija board and fakes elaborate séances for his fellow prisoners word gets around and one day an ottoman official approaches jones with a query could jones contact the spirit world to find a vast treasure rumored to be buried nearby jones a trained lawyer and hill a brilliant magician use the ouija board and their keen understanding of the psychology of deception to build a trap for their captors that will ultimately lead them to freedom a gripping nonfiction thriller the confidence men is the story of one of the only known con games played for a good cause and of a profound but unlikely friendship had it not been for the great war jones the oxford educated son of a british lord and hill a mechanic on an australian sheep ranch would never have met but in pain loneliness hunger and isolation they formed a powerful emotional and intellectual alliance that saved both of their lives margalit fox brings her nose for interesting facts the ability to construct a taut narrative arc and a dickens level gift for concisely conveying personality kathryn schulz new york to this tale of psychological strategy that is rife with cunning danger and moments of high farce that rival anything in catch 22 get to know whiplash turbo s racing buddy in this board book that's shaped just like him the all american movie turbo revs up in theaters on july 17 2013 turbo is back
Excavations and foundations in soft soils

breakout snail star whiplash is turbo s funny new friend meet this super snail in this shaped board book that s perfect for zooming around floors and furniture dreamworks turbo 2013 dreamworks animation l l c covers the basics of arduino to create interactive projects with information on such topics as breadboarding soldering setting up wireless connections and safety if you are unfamiliar with programming and are looking for an open source electronic interface then arduino could be just the place to start with a range of arduinos to choose from and an increasing variety of projects online or in person that are built on arduino technologies the flexibility they offer and the ease of building gadgets with arduino has attracted many people who are both novices and seasoned professionals now with this new and informative guide arduino programming the ultimate beginner s guide to learn arduino programming step by step you can learn all you need to get you started with this impressive resource with chapters that delve into the history of arduino 6 advantages of arduino anatomy and other terms of arduino understanding the choices that are on offer setting up arduino data types inputs outputs and sensors and lots more this comprehensive guide to arduino is all you will ever need to get you started and will provide you with enough information to overcome any initial obstacles you ll encounter meaning that you will be up and running before long and ready to get programming faster than with other traditional offerings arduino is the answer you ve been looking for and arduino programming is the book that will provide the platform for your success don t wait any longer and get your copy today embrace the exciting new technology of raspberry pi with the invention of the unique credit card sized single board computer the raspberry pi comes a new wave of hardware geeks hackers and hobbyists who are excited about the possibilities of the raspberry pi and this is the perfect guide to get you started in this exhilarating new arena with this fun and friendly book you ll quickly discover why the supply for the pi cannot keep up with the demand veteran tech authors sean mcmanus and mike cook show you how to download and install the operating system use the installed applications and much more covers connecting the pi to other devices such as a keyboard mouse monitor and more teaches you basic linux system admin walks you through editing images creating web pages and playing music details how to program with scratch and python explores creating simple hardware projects raspberry pi for dummies makes computing as easy as pie now discover the history of raspberry pi the raspberry pi foundation if you ve ever wondered how it came into being and what inspired its creation sean mcmanus co author of raspberry pi for dummies has the answer he has set up a section on his website to share bonus content which includes a short history of the raspberry pi at sean s website you can also read reviews of the book see videos of its projects and read several exclusive blog posts about the raspberry pi and its community visit sean s homepage for raspberry pi for dummies here it is not between the left and the right but between the past and the future america is on the edge of a breakout in fact we are poised for one of the most spectacular leaps in human well being in history pioneers of the future innovators and entrepreneurs are achieving breakthroughs in medicine transportation energy education and other fields that will make the world a dramatically different and better place unless the prison guards of the past stop them every american must choose a side will you be a champion of the future or a prisoner of the past every potential breakthrough has to get past a host of individuals and institutions whose power and comfort depend on the status quo these prison guards of the past will strangle every innovation that threatens to change the way things have always been done if we let them in buggy breakout spring has sprung bringing bugs the clue crew must use their best detective skills to recover the bug club s prize insect a practical guide to building pic and stm32 microcontroller board applications with c and c programming key featuresdiscover how to apply microcontroller boards in real life to create interesting iot projectscreate innovative solutions to help improve the lives of people affected by the covid 19 pandemicdesign build program and test microcontroller based projects with the c and c programming languagebook description we live in a world surrounded by electronic devices and microcontrollers are the brains of these devices...
Microcontroller programming is an essential skill in the era of the internet of things (IoT) and this book helps you to get up to speed with it by working through projects for designing and developing embedded apps with microcontroller boards. DIY microcontroller projects for hobbyists are filled with microcontroller programming, C and C++ language constructs you'll discover how to use the blue pill containing a type of STM32 microcontroller and Curiosity Nano containing a type of PIC microcontroller boards for executing your projects as PIC is a beginner level board and STM32 is an ARM Cortex-based board. Later you'll explore the fundamentals of digital electronics and microcontroller board programming. The book uses examples such as measuring humidity and temperature in an environment to help you gain hands on project experience you'll build on your knowledge as you create IoT projects by applying more complex sensors. Finally, you will find out how to plan for a microcontroller based project and troubleshoot it. By the end of this book, you'll have developed a firm foundation in electronics and practical PIC and STM32 microcontroller programming and interfacing adding valuable skills to your professional portfolio. What you will learn: Get to grips with the basics of digital and analog electronics. Design, build, program, and test a microcontroller based system. Understand the importance and applications of STM32 and PIC microcontrollers. Discover how to connect sensors to microcontroller boards. Find out how to obtain sensor data via coding. Use microcontroller boards in real life and practical projects. Who this book is for: This STM32 PIC microcontroller book is for students and engineers who want to explore the world of embedded systems and microcontroller programming. Beginners as well as more experienced users of digital electronics and microcontrollers will also find this book useful. Basic knowledge of digital circuits and C and C++ programming will be helpful but not necessary. This textbook is for a first course on electronics. It assumes no prior electronics experience but does assume that students have had calculus 1, single variable differential calculus, and high school physics. The course is centered around the labs which are a mix of design labs and measurement modeling labs. This unique volume takes students from knowing no electronics to being able to design and build amplifier and filter circuits for connecting sensors to microcontrollers within 20 weeks.
Excavations and foundations in soft soils

The book begins by initially describing the format of the oral board exam and then examines some of the concepts and techniques in the question answer process that forms the major premise of the oral board exam. Each chapter contains 4-7 case presentations which are organized similarly to how oral board questions are presented. The authors provide detailed analysis of these cases as well as key references for each case. The conclusions from each referenced paper are then shared with the candidate. The book is designed to cover the board exams, none of which are specifically designed as case-based resources for oral board exam preparation. The Goodman Neurosurgery Oral Board Review focuses specifically on the oral board exam and has been updated for this new edition to reflect the most recent post-2017 style. This review is an ideal resource for neurosurgeons preparing for the oral board and is also very appropriate for those who are trying to maintain competence in neurosurgery. The book is also valuable for those who are looking to learn more about the raspberry pi and its potential for IOT projects. The book is suitable for those with some technical background but not necessarily engineers. It will also appeal to technical people wanting to learn about the raspberry pi in a project-oriented method. The book provides a thorough introduction to the Texas Instruments MSP432 microcontroller. The processor may be programmed at a variety of levels with different programming languages including the user-friendly Energia rapid prototyping platform in assembly language and in C. A number of C programming options are also available to developers starting with register level access code where developers can directly configure the device’s registers to driver library which provides a standardized set of application program interfaces to enable software developers to quickly manipulate various peripherals available on the device and higher abstraction layers are also available such as the extremely user-friendly Energia platform that enables even beginners to quickly prototype an application on MSP432 through its user-friendly architecture.
host of technical data application notes training modules and software examples all are encapsulated inside one handy package called mspware available as both a stand alone download package as well as on the ti cloud development site dev ti com the features of the msp432 may be extended with a full line of boosterpack plug in modules the msp432 is also supported by a variety of third party modular sensors and software compiler companies in the back a thorough introduction to the mps432 line of microcontrollers programming techniques and interface concepts are provided along with considerable tutorial information with many illustrated examples each chapter provides laboratory exercises to apply what has been presented in the chapter the book is intended for an upper level undergraduate course in microcontrollers or mechatronics but may also be used as a reference for capstone design projects practicing engineers already familiar with another microcontroller who require a quick tutorial on the microcontroller will also find this book very useful finally middle school and high school students will find the msp432 highly approachable via the energia rapid prototyping system
A Comprehensible Guide to Controller Area Network 2008 controller area network can is a serial network technology that was originally designed for the automotive industry but has also become a popular bus in industrial automation the can bus is primarily used in embedded solutions and provides communication among microprocessors up to real time requirements a comprehensible guide to controller area network represents a very thoroughly researched and complete work on can it provides information on all can features and aspects combined with high level of readability book jacket

Super Potato's Galactic Breakout 2019-08-01 super potato is kidnapped by zort a space slug who collects rare creatures from across the galaxy but with the help of zort s put upon robot helper super potato stages an outer space jailbreak

Getting Started with Tiva ARM Cortex M4 Microcontrollers 2017-10-16 the book presents laboratory experiments concerning arm microcontrollers and discusses the architecture of the tiva cortex m4 arm microcontrollers from texas instruments describing various ways of programming them given the meager peripherals and sensors available on the kit the authors describe the design of padma a circuit board with a large set of peripherals and sensors that connects to the tiva launchpad and exploits the tiva microcontroller family s on chip features arm microcontrollers which are classified as 32 bit devices are currently the most popular of all microcontrollers they cover a wide range of applications that extend from traditional 8 bit devices to 32 bit devices of the various arm subfamilies cortex m4 is a middle level microcontroller that lends itself well to data acquisition and control as well as digital signal manipulation applications given the prominence of arm microcontrollers it is important that they should be incorporated in academic curriculums however there is a lack of up to date teaching material textbooks and comprehensive laboratory manuals in this book each of the microcontroller s resources digital input and output timers and counters serial communication channels analog to digital conversion interrupt structure and power management features are addressed in a set of more than 70 experiments to help teach a full semester course on these microcontrollers beyond these physical interfacing exercises it describes an inexpensive bob break out board that allows students to learn how to design and build standalone projects as well a number of illustrative projects

Python Programming for Beginners 2021-07-13 the history of python kicked off when guido van rossum the founder of python started working on it in the late 1980s python is the successor of the abc programming language the first python version was released back in 1991 and has only grown exponentially since then it now has a vast community that releases the latest updates regularly guido van rossum is also known as the benevolent dictator for life this title was given to him by the python community to honor him for his long term commitment and dedication to the project and for being the project leader for such a long period python is a high level interpreted programming language that is used throughout the world for general purpose programming it is an open source programming language licensed by both the free software foundation fsf and open source initiative osi like some other programming languages its source code is also available under the gnu general public license gpl python 2 x being the legacy version was used earlier across the globe it stopped receiving newer features and security updates after python 2 7 so people migrated to python version 3 x throughout this book we will be focusing more on the python 3 x version which is the latest and is currently in active development before we proceed further i would like to inform you all that the purpose of writing this book is to make your understanding of python clearer by explaining technical terms in layman s language with the help of code snippets and practical examples i also wanted to make sure that the reader does not feel bored while reading the book so i ll be adding some attractive code snippets that are appealing to the eyes

Bogatin's Practical Guide to Prototype Breadboard and PCB Design 2021-09-30 printed circuit boards pcb are at the heart of every electronic product manufactured today yet engineers rarely learn to design pcbs from a class or course they learn it by doing by reading app notes watching youtube videos and sitting by the side of an experienced
engineer this book is the foundation building book for all engineers starting out to design pcbs it teaches good habits designing a pcb first for connectivity and secondly introduces the four most important principles to reduce noise a seven step process is presented developing a plan of record creating a bill of materials completing the schematic completing the layout completing the assembly conducting bring up and troubleshooting and documenting the project each step is developed in detail in particular the emphasis in this book is on risk management what can be done at each step of the process to reduce the risk of a hard error which requires a complete re spin or a soft error which requires some sort of on the fly repair after connectivity is designed it’s important to develop good habits to minimize the potential noise from ground bounce power rail stitching noise stack up design and reducing switching noise in signal paths these techniques apply to all designs from 2 layer to 8 layer and more for bandwidths below 200 mhz the best practices for manual lead free soldering are presented so that everyone can become a soldering expert the best measurement practices using common lab instruments such as the dmm the constant current constant voltage power supply and oscilloscopes are presented so that common artifacts are minimized features in the design that help you find design or assembly errors quickly and the troubleshooting techniques to find and fix problems are introduced applying the habits presented in this book will help every engineer design their next circuit board faster with less chance of an unexpected problem with the lowest noise this textbook will also have embedded videos to visually demonstrate many of the hands on processes introduced in this book Breakout! (Camp Rolling Hills #3) 2017-05-09 it’s the end of the summer which means one thing color war time color war is the event of the summer a massive camp wide competition the camp is divided into two teams blue and white with upper campers vying for the envied spot of lieutenant a team leader position jenny assumes she’s got lieutenant in the bag being a popular girl and all and play dough sure hopes he does too members of his family have been white team lieutenants for generations but when assignments are announced both are in for a surprise play dough’s a lieutenant all right for the enemy blue team and jenny isn’t lieutenant at all so who is jamie jenny’s sidekick with the entire camp amping up for an all out war can jenny and play dough overcome expectations and lead their teams to victory High-Tech LEGO Projects 2020-12-01 a collection of 16 fascinating scientific and technical projects to build with parts from the lego mindstorms ev3 robotics set and other components a great addition to any stem curriculum or home library high tech lego hijacks the mindstorms ev3 revolution showing you how to build creative technical inventions with practical applications you’ll learn to build a dynamic array of working devices for outdoor research home security spycraft and more among the book’s 16 fascinating projects you’ll find a motion activated animal cam a morse code transmitter a laser security fence a motion sensing radar detector an automated insect trapper and a heat seeking infrared cannon welcome to a whole new world of building every project brings together science mechanics electronics optics and software to create complex instruments for studying and measuring the world around you all while maintaining the playfulness of lego each easy to follow model combines illustrated instructions with step by step guidance on the engineering methods at play as you build you’ll learn illegal modding techniques that may include drilling cutting and soldering shh different ways to work with diode laser modules tricks for modifying ev3 sensors and motors the joy of hacking lego light bricks to make a flickering fireplace how to use mindstorms to build your own contraptions experiment on your own and expand on your finished creations make a few adjustments so the critter cam triggers an alarm to scare away pests or modify the doppler radar to detect flammable gasses the possibilities are endless requirements lego mindstorms ev3 home edition windows vista or higher macos 10.14 or earlier Exploring BeagleBone 2014-12-05 in depth instruction and practical techniques for building with the beaglebone embedded linux platform exploring beaglebone is a hands on guide to bringing gadgets gizmos and robots to life using the popular beaglebone embedded linux platform
comprehensive content and deep detail provide more than just a beaglebone instruction manual you’ll also learn the underlying engineering techniques that will allow you to create your own projects the book begins with a foundational primer on essential skills and then gradually moves into communication control and advanced applications using C allowing you to learn at your own pace in addition the book’s companion website features instructional videos source code discussion forums and more to ensure that you have everything you need the beaglebone’s small size high performance low cost and extreme adaptability have made it a favorite development platform and the Linux software base allows for complex yet flexible functionality the beaglebone has applications in smart buildings robot control environmental sensing to name a few and expansion boards and peripherals dramatically increase the possibilities exploring beaglebone provides a reader friendly guide to the device including a crash course in computer engineering while following step by step you can get up to speed on embedded Linux electronics and programming master interfacing electronic circuits buses and modules with practical examples explore the internet connected beaglebone and the beaglebone with a display apply the beaglebone to sensing applications including video and sound explore the beaglebone’s programmable real time controllers hands on learning helps ensure that your new skills stay with you allowing you to design with electronics modules or peripherals even beyond the beaglebone insightful guidance and online peer support help you transition from beginner to expert as you master the techniques presented in exploring beaglebone the practical handbook for the popular computing platform

Because I’m Your Dad 2015-06-04 because i’m your dad you can have spaghetti for breakfast french toast for dinner and rocky road ice cream in the bathtub in a text that’s both playful and loving a father expresses his hopes and dreams for a one of a kind relationship with his child whimsical monster characters bring the silly and sweet scenes to life and keep the book universal the book’s ending a moving tribute to the author’s father guarantees intergenerational appeal because i’m your dad i will do all of these things for you and more because that’s what my dad did for me

SD Card Projects Using the PIC Microcontroller 2010-05-14 PIC microcontrollers are a favorite in industry and with hobbyists these microcontrollers are versatile simple and low cost making them perfect for many different applications the 8 bit PIC is widely used in consumer electronic goods office automation and personal projects Author Dogan Ibrahim author of several PIC books has now written a book using the PIC18 family of microcontrollers to create projects with SD cards this book is ideal for those practicing engineers advanced students and PIC enthusiasts that want to incorporate SD cards into their devices SD cards are cheap fast and small used in many MP3 players digital and video cameras and perfect for microcontroller applications complete with MicroChip’s C18 student compiler and using the C language this book brings the reader up to speed on the PIC18 and SD cards knowledge which can then be harnessed for hands on work with the eighteen projects included within two great technologies are brought together in this one practical real world hands on cookbook perfect for a wide range of PIC fans eighteen fully worked SD projects in the C programming language details memory cards usage with the PIC18 family

Getting Started with Adafruit FLORA 2015-02-05 this book introduces readers to building wearable electronics projects using adafruit’s tiny flora board at 4 4 grams and only 1 75 inches in diameter and featuring Arduino compatibility it’s the most beginner friendly way to create wearable projects this book shows you how to plan your wearable circuits sew with electronics and write programs that run on the flora to control the electronics the flora family includes an assortment of sensors as well as RGB LEDs that let you add lighting to your wearable projects

SCP: Breakout 2018-04-11 a RPG tabletop rendition for testing breakout scenarios in various SCP foundation facilities this rulebook contains everything needed to run a tabletop pen and paper breakout horror adventure

The Official BBC micro:bit User Guide 2017-10-04 the go to guide to getting started with the BBC micro:bit and exploring all of its amazing
capabilities the bbc micro bit is a pocket sized electronic development platform built with education in mind it was developed by the bbc in partnership with major tech companies communities and educational organizations to provide kids with a fun easy inexpensive way to develop their digital skills with it kids and grownups can learn basic programming and coding while having fun making virtual pets developing games and a whole lot more written by internationally bestselling tech author gareth halfacree and endorsed by the micro bit foundation the official bbc micro bit user guide contains what you need to know to get up and running fast with the bbc micro bit learn everything from taking your first steps with the bbc micro bit to writing your own programs you ll also learn how to expand its capabilities with add ons through easy to follow step by step instructions set up your bbc micro bit and develop your digital skills write code in javascript blocks javascript and python discover the bbc micro bit s built in sensors connect the bbc micro bit to a raspberry pi to extend its capabilities build your own circuits and create hardware the official bbc micro bit user guide is your go to source for learning all the secrets of the bbc micro bit whether you re just beginning or have some experience this book allows you to dive right in and experience everything the bbc micro bit has to offer.

Breakout 2018-06-05 told in letters poems text messages news stories and comics a series of documents nora collects for the wolf creek community time capsule project breakout is a thrilling story that will leave readers thinking about who s really welcome in the places we call home nora tucker is looking forward to summer vacation in wolf creek two months of swimming popsicles and brushing up on her journalism skills for the school paper but when two inmates break out of the town s maximum security prison everything changes doors are locked helicopters fly over the woods and police patrol the school grounds everyone is on edge and fear brings out the worst in some people nora has known her whole life even if the inmates are caught she worries that home might never feel the same a mighty girl best book of the year.

Android for the BeagleBone Black 2015-02-19 if you are an android app developer who wants to experiment with the hardware capabilities of the beaglebone black platform then this book is ideal for you you are expected to have basic knowledge of developing android apps but no prior hardware experience is required.

Arduino Projects For Dummies 2013-06-24 discover all the amazing things you can do with arduino arduino is a programmable circuit board that is being used by everyone from scientists programmers and hardware hackers to artists designers hobbyists and engineers in order to add interactivity to objects and projects and experiment with programming and electronics this easy to understand book is an ideal place to start if you are interested in learning more about arduino s vast capabilities featuring an array of cool projects this arduino beginner guide walks you through every step of each of the featured projects so that you can acquire a clear understanding of the different aspects of the arduino board introduces arduino basics to provide you with a solid foundation of understanding before you tackle your first project features a variety of fun projects that show you how to do everything from automating your garden s watering system to constructing a keypad entry system installing a tweeting cat flap building a robot car and much more provides an easy hands on approach to learning more about electronics programming and interaction design for makers of all ages arduino projects for dummies is your guide to turning everyday electronics and plain old projects into incredible innovations get connected to find out more about brock craft and his recent arduino creations visit facebook com arduinoprojectsfordummies.

The Breakout 2017-01-31 james murphy is a marine corps sniper he s done two tours in afghanistan he s considered an american hero and james is out for revenge alejandro rocha a massively powerful drug kingpin who operates out of la paz mexico is responsible for james s sister layla s death and he intends to make rocha pay for it james goes awol from his unit and travels to mexico ready to enact bloody vengeance but before he can go through with his plan he is arrested by the crooked police of la paz he s quickly thrown into a dangerous prison on trumped up charges he knows he is marked for death while in this prison and there s nothing he
can do about it however there is a group of people who can do something about it discovering that James is wasting away in a Mexican prison the marines in his unit decide to risk court martial themselves and go AWOL as well ready to go to war in order to break their brother out. And that's just the beginning of the mayhem and violence.

**Node.js for Embedded Systems** 2016-10-10 how can we build bridges from the digital world of the internet to the analog world that surrounds us by bringing accessibility to embedded components such as sensors and microcontrollers. Javascript and node.js might shape the world of physical computing as they did for web browsers this practical guide shows how hardware and software engineers, makers, and web developers talk to Javascript with a variety of hardware platforms. Authors Patrick Mulder and Kelsey Breseman also delve into the basics of microcontrollers single-board computers, and other hardware components using Javascript to program microcontrollers with Arduino and Espruino prototype IoT devices with the Tessel 2 development platform. Learn about electronic input and output components including sensors connect microcontrollers to the internet with the particle photon toolchain run node.js on single board computers such as Raspberry Pi and Intel Edison talk to embedded devices with node.js libraries such as Johnny five and remotely control the devices with Bluetooth use MQTT as a message broker to connect devices across networks and explore ways to use robots as building blocks for shared experiences.

**Exploring BeagleBone** 2018-12-17 in-depth instruction and practical techniques for building with the BeagleBone embedded Linux platform. Exploring BeagleBone is a hands-on guide to bringing gadgets, gizmos, and robots to life using the popular BeagleBone embedded Linux platform. Comprehensive content and deep detail provide more than just a BeagleBone instruction manual. You'll also learn the underlying engineering techniques that will allow you to create your own projects. The book begins with a foundational primer on essential skills and then gradually moves into communication control, and advanced applications using C++ allowing you to learn at your own pace. In addition, the book's companion website features instructional videos, source code, discussion forums, and more. The BeagleBone is small, high-performance, low-cost and extreme adaptability. It has made it a favorite development platform, and the Linux software base allows for complex yet flexible functionality. The BeagleBone has applications in smart buildings, robot control, environmental sensing, to name a few. And expansion boards and peripherals dramatically increase the possibilities. Exploring BeagleBone provides a reader-friendly guide to the device including a crash course in computer engineering while following step by step you can get up to speed on embedded Linux, electronics, and programming master interfacing electronic circuits, buses, and modules with practical examples. Explore the internet connected BeagleBone and the BeagleBone with a display apply the BeagleBone to sensing applications including video and sound. Explore the BeagleBone's programmable real-time controllers updated to cover the latest Beagle boards, Linux kernel versions, and Linux software releases. Includes new content on Linux, kernel development, the Linux remote processor framework, and the latest IoT frameworks and much more. Hands-on learning helps ensure that your new skills stay with you allowing you to design with electronics modules or peripherals even beyond the BeagleBone. Insightful guidance and online peer support help you transition from beginner to expert as you master the techniques presented in exploring BeagleBone. The practical handbook for the popular computing platform.

**Prototype to Product** 2015-08-11 product development is the magic that turns circuitry, software, and materials into a product but moving efficiently from concept to manufactured product is a complex process with many potential pitfalls. This practical guide pulls back the curtain to reveal what happens or should happen when you take a product from prototype to production for makers looking to go pro or product development team members keen to understand the process. Author Alan Cohen tracks the development of an intelligent electronic device to explain the strategies and tactics necessary to transform an abstract idea into a successful product that people want to use. Learn 11 deadly sins that kill product development projects and get an overview of how electronic products are manufactured. Determine whether your idea has a good chance of being
profitable narrow down the product's functionality and associated costs generate requirements that describe the final product's details select your processor operating system and power sources learn how to comply with safety regulations and standards dive into development from rapid prototyping to manufacturing alan cohen a veteran systems and software engineering manager and lifelong technophile specializes in leading the development of medical devices and other high reliability products his passion is to work with engineers and other stakeholders to forge innovative technologies into successful products

The Arduino Inventor's Guide 2017-05-15 with arduino you can build any hardware project you can imagine this open source platform is designed to help total beginners explore electronics and with its easy to learn programming language you can collect data about the world around you to make something truly interactive the arduino inventor's guide opens with an electronics primer filled with essential background knowledge for your diy journey from there you'll learn your way around the arduino through a classic hardware entry point blinking leds over the course of the book 11 hands on projects will teach you how to build a stop light with leds display the volume in a room on a warning dial design and build a desktop fan create a robot that draws with a motor and pens create a servo controlled balance beam build your own playable mini piano make a drag race timer to race toy cars against your friends each project focuses on a new set of skills including breadboarding circuits reading digital and analog inputs reading magnetic temperature and other sensors controlling servos and motors and talking to your computer and the with an arduino at the end of every project you'll also find tips on how to use it and how to mod it with additional hardware or code what are you waiting for start making and learn the skills you need to own your technology uses the arduino uno board or sparkfun redboard

Beginning Sensor Networks with Arduino and Raspberry Pi 2014-01-23 beginning sensor networks with arduino and raspberry pi teaches you how to build sensor networks with arduino raspberry pi and xbee radio modules and even shows you how to turn your raspberry pi into a mysql database server to store your sensor data first you'll learn about the different types of sensors and sensor networks including how to build a simple xbee network then you'll walk through building an arduino based temperature sensor and data collector followed by building a raspberry pi based sensor node next you'll learn different ways to store sensor data including writing to an sd card sending data to the cloud and setting up a raspberry pi mysql server to host your data you even learn how to connect to and interact with a mysql database server directly from an arduino finally you'll learn how to put it all together by connecting your arduino sensor node to your new raspberry pi database server if you want to see how well arduino and raspberry pi can get along especially to create a sensor network then beginning sensor networks with arduino and raspberry pi is just the book you need

Beginning BBC micro:bit 2018-01-24 learn essential concepts and techniques to build simple to advanced projects and overcome common programming challenges in micro bit development beginning bbc micro bit will take you through the complete features and capabilities of the micro bit controller enabling you to program and build your own projects the uses are endless for the micro bit and this books will help get you started on building your next project with this popular and easy to use microcontroller you'll use online python editor and mu editor to build your own applications reviewed by the micro bit developer team this comprehensive guide also provides clean code examples to help you learn the key concepts behind the micro bit api what you'll learn work with the various kits and accessories master the micro bit development platform with easy to follow examples and clean code build your own micro bit applications using an online python editor and mu editor use the onboard led matrix built in buttons i o pins accelerometer and compass learn how to connect and communicate with devices through i2c spi and uart build applications with music and speech libraries use local persistent file system to store and manipulate files build applications based on wired and radio networks use micro bit and micro bit blue apps who this book is for beginners those already experienced with electronics and hobbyists at all levels looking to get started with a new microcontroller
Arduino Cookbook 2020-04-17 want to create devices that interact with the physical world this cookbook is perfect for anyone who wants to experiment with the popular arduino microcontroller and programming environment you ll find more than 200 tips and techniques for building a variety of objects and prototypes such as iot solutions environmental monitors location and position aware systems and products that can respond to touch sound heat and light updated for the arduino 1 8 release the recipes in this third edition include practical examples and guidance to help you begin expand and enhance your projects right away whether you re an engineer designer artist student or hobbyist get up to speed on the arduino board and essential software concepts quickly learn basic techniques for reading digital and analog signals use arduino with a variety of popular input devices and sensors drive visual displays generate sound and control several types of motors connect arduino to wired and wireless networks learn techniques for handling time delays and time measurement apply advanced coding and memory handling techniques

Beginning Sensor Networks with XBee, Raspberry Pi, and Arduino 2020-06-25 build sensor networks with python and micropython using xbee radio modules raspberry pi and arduino boards this revised and updated edition will put all of these together to form a sensor network and show you how to turn your raspberry pi into a mysql database server to store your sensor data you ll review the different types of sensors and sensor networks along with new technology including how to build a simple xbee network you ll then walk through building an sensor nodes on the xbee raspberry pi and arduino and also learn how to collect data from multiple sensor nodes the book also explores different ways to store sensor data including writing to an sd card sending data to the cloud and setting up a raspberry pi mysql server to host your data you ll even learn how to connect to and interact with a mysql database server directly from an arduino finally you ll see how to put it all together by connecting your sensor nodes to your new raspberry pi database server if you want to see how well xbee raspberry pi and arduino can get along especially to create a sensor network then beginning sensor networks with xbee raspberry pi and arduino is just the book you need what you ll learn code your sensor nodes with python and micropython work with new xbee 3 modules host your data on raspberry piget started with mysql create sophisticated sensor networks who this book is for those interested in building or experimenting with sensor networks and iot solutions including those with little or no programming experience a secondary target includes readers interested in using xbee modules with raspberry pi and arduino those interested in controlling xbee modules with micropython

Data Security in Internet of Things Based RFID and WSN Systems Applications 2020-12-10 this book focuses on rfid radio frequency identification iot internet of things and wsn wireless sensor network it includes contributions that discuss the security and privacy issues as well as the opportunities and applications that are tightly linked to sensitive infrastructures and strategic services this book addresses the complete functional framework and workflow in iot enabled rfid systems and explores basic and high level concepts it is based on the latest technologies and covers the major challenges issues and advances in the field it presents data acquisition and case studies related to data intensive technologies in rfid based iot and includes wsn based systems and their security it can serve as a manual for those in the industry while also helping beginners to understand both the basic and advanced aspects of iot based rfid related issues this book can be a premier interdisciplinary platform for researchers practitioners and educators to present and discuss the most recent innovations trends and concerns as well as practical challenges encountered and find solutions that have been adopted in the fields of iot and analytics

The Confidence Men 2022-06-07 national bestseller the great escape for the great war the astonishing true story of two world war i prisoners who pulled off one of the most ingenious escapes of all time finalistor for the edgar award one of the best books of the year the washington post npr fox unsloops jones and hill s delightfully elaborate scheme in nail biting episodes that advance like a narrative rube goldberg machine the new york times book review imprisoned in a remote turkish pow camp during world war i having survived a two month forced march and a terrifying shootout
in the desert two british officers harry jones and cedric hill join
forces to bamboozle their iron fisted captors to stave off despair and
boredom jones takes a handmade ouija board and fakes elaborate séances
for his fellow prisoners word gets around and one day an ottoman official
approaches jones with a query could jones contact the spirit world to
find a vast treasure rumored to be buried nearby jones a trained lawyer
and hill a brilliant magician use the ouija board and their keen
understanding of the psychology of deception to build a trap for their
captors that will ultimately lead them to freedom a gripping nonfiction
thriller the confidence men is the story of one of the only known con
games played for a good cause and of a profound but unlikely friendship
had it not been for the great war jones the oxford educated son of a
british lord and hill a mechanic on an australian sheep ranch would never
have met but in pain loneliness hunger and isolation they formed a
powerful emotional and intellectual alliance that saved both of their
lives margalit fox brings her nose for interesting facts the ability to
construct a taut narrative arc and a dickens level gift for concisely
conveying personality kathryn schulz new york to this tale of
psychological strategy that is rife with cunning danger and moments of
high farce that rival anything in catch 22
Meet Whiplash 2013-06-11 get to know whiplash turbo s racing buddy in
this board book that s shaped just like him the dreamworks movie turbo
revs up in theaters on july 17 2013 sure to be a breakout snail star
whiplash is turbo s funny new friend meet this super snail in this shaped
board book that s perfect for zooming around floors and furniture
dreamworks turbo 2013 dreamworks animation l l c
Arduino for Beginners
2013-10-20 covers the basics of arduino to create
interactive projects with information on such topics as breadboarding
soldering setting up wireless connections and safety
Arduino Programming
2020-04-18 if you are unfamiliar with programming and
are looking for an open source electronic interface then arduino could be
just the place to start with a range of arduinos to choose from and an
increasing variety of projects online or in person that are built on
arduino technologies the flexibility they offer and the ease of building
gadgets with arduino has attracted many people who are both novices and
seasoned professionals now with this new and informative guide arduino
programming the ultimate beginner s guide to learn arduino programming
step by step you can learn all you need to get you started with this
impressive resource with chapters that delve into the history of arduino
6 advantages of arduino anatomy and other terms of arduino understanding
the choices that are on offer setting up arduino data types inputs
outputs and sensors and lots more this comprehensive guide to arduino
is all you will ever need to get you started and will provide you with
enough information to overcome any initial obstacles you ll encounter
meaning that you will be up and running before long and ready to get
programming faster than with other traditional offerings arduino is the
answer you ve been looking for and arduino programming is the book that
will provide the platform for your success don t wait any longer and get
your copy today
Raspberry Pi For Dummies
2013-03-14 embrace the exciting new technology
of raspberry pi with the invention of the unique credit card sized single
board computer the raspberry pi comes a new wave of hardware geeks
hackers and hobbyists who are excited about the possibilities of the
raspberry pi and this is the perfect guide to get you started in this
exhilarating new arena with this fun and friendly book you ll quickly
discover why the supply for the pi cannot keep up with the demand veteran
tech authors sean mcmanus and mike cook show you how to download and
install the operating system use the installed applications and much more
covers connecting the pi to other devices such as a keyboard mouse
monitor and more teaches you basic linux system admin walks you through
editing images creating web pages and playing music details how to
program with scratch and python explores creating simple hardware
projects raspberry pi for dummies makes computing as easy as pie now
discover the history of raspberry pi the raspberry pi sold a million
units in its first year and came from a previously unknown organisation
the raspberry pi foundation if you ve ever wondered how it came into
being and what inspired its creation sean mcmanus co author of raspberry
pi for dummies has the answer he has set up a section on his website to share bonus content which includes a short history of the raspberry pi at sean s website you can also read reviews of the book see videos of its projects and read several exclusive blog posts about the raspberry pi and its community visit sean s homepage for raspberry pi for dummies here Breakout 2014-10-07 it is not between the left and the right but between the past and the future america is on the edge of a breakout in fact we are poised for one of the most spectacular leaps in human well being in history pioneers of the future innovators and entrepreneurs are achieving breakthroughs in medicine transportation energy education and other fields that will make the world a dramatically different and better place unless the prison guards of the past stop them every american must choose a side will you be a champion of the future or a prisoner of the past every potential breakthrough has to get past a host of individuals and institutions whose power and comfort depend on the status quo these prison guards of the past will strangle every innovation that threatens to change the way things have always been done if we let them Buggy Breakout 2010-03-09 in buggy breakout spring has sprung bringing bugs the clue crew must use their best detective skills to recover the bug club s prize insect DIY Microcontroller Projects for Hobbyists 2021-07-30 a practical guide to building pic and stm32 microcontroller board applications with c and c programming key features discover how to apply microcontroller boards in real life to create interesting iot projects create innovative solutions to help improve the lives of people affected by the covid 19 pandemic design build program and test microcontroller based projects with the c and c programming language book description we live in a world surrounded by electronic devices and microcontrollers are the brains of these devices microcontroller programming is an essential skill in the era of the internet of things iot and this book helps you to get up to speed with it by working through projects for designing and developing embedded apps with microcontroller boards diy microcontroller projects for hobbyists are filled with microcontroller programming c and c language constructs you ll discover how to use the blue pill containing a type of stm32 microcontroller and curiosity nano containing a type of pic microcontroller boards for executing your projects as pic is a beginner level board and stm 32 is an arm cortex based board later you ll explore the fundamentals of digital electronics and microcontroller board programming the book uses examples such as measuring humidity and temperature in an environment to help you gain hands on project experience you ll build on your knowledge as you create iot projects by applying more complex sensors finally you ll find out how to plan for a microcontroller based project and troubleshoot it by the end of this book you ll have developed a firm foundation in electronics and practical pic and stm32 microcontroller programming and interfacing adding valuable skills to your professional portfolio what you will learn get to grips with the basics of digital and analog electronics and microcontrollers discover how to connect sensors to microcontroller boards in real life and practical projects who this book is for this stm32 pic microcontroller book is for students hobbyists and engineers who want to explore the world of embedded systems and microcontroller programming beginners as well as more experienced users of digital electronics and microcontrollers will also find this book useful basic knowledge of digital circuits and c and c programming will be helpful but not necessary Applied Analog Electronics: A First Course In Electronics 2023-06-06 this textbook is for a first course on electronics it assumes no prior electronics experience but does assume that students have had calculus 1 single variable differential calculus and high school physics a key idea of the course is that students need a lot of design experience and hands on work rather than a lot of theory the course is centered around the labs which are a mix of design labs and measurement modeling labs this unique volume takes students from knowing no electronics to being able to design and build amplifier and filter circuits for connecting sensors to microcontrollers within 20 weeks students design a digital thermometer a
blood pressure meter an optical pulse monitor an ekg an audio preamplifier and a class d power amplifier they also learn how to measure and characterize components including impedance spectroscopy of a loudspeaker and of electrochemical electrodes related link

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Goodman's Neurosurgery Oral Board Review 2nd Edition 2020-03-27 goodman s neurosurgery oral board review educates and prepares neurosurgery candidates who are studying for the neurosurgery oral board exam the final step prior to board certification it also serves as a primer for the goodman oral board course a bi annual course sponsored by the aans the book begins by initially describing the format of the oral board exam it then examines some of the concepts and techniques in the question answer process that forms the major premise of the oral board exam each chapter contains 4 7 case presentations which are organized similarly to how oral board questions are presented with a brief history physical and relevant imaging studies the authors provide detailed analysis of these cases as well as key references for each case with the salient conclusions from each referenced paper while there are a few books that cover the board exams none of them are specifically designed as case based resources for oral board exam preparation goodman s neurosurgery oral board review focuses specifically on the oral board exam and has been updated for this new edition to reflect the most recent post 2017 style board this review is an ideal resource for neurosurgeons who are preparing for the oral board and is also very appropriate for those who are trying to maintain competence in neurosurgery

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Embedded Systems Design with the Texas Instruments MSP432 32-bit Processor

2022-06-01

This book provides a thorough introduction to the Texas Instruments MSP432 microcontroller. The MSP432 is a 32-bit processor with the ARM Cortex M4F architecture and a built-in floating-point unit. At the core, the MSP432 features a 32-bit ARM Cortex M4F CPU, a RISC architecture processing unit that includes a built-in DSP engine, and a floating-point unit as an extension of the ultra-low power MSP microcontroller family. The MSP432 features ultra-low power consumption and integrated digital and analog hardware peripherals. The MSP432 is a new member to the MSP family, providing a seamless transition to applications requiring 32-bit processing at an operating frequency of up to 48 MHz. The processor may be programmed at a variety of levels with different programming languages, including the user-friendly Energia Rapid Prototyping platform in assembly language and in C. A number of C programming options are also available to developers starting with register level access code, where developers can directly configure the device’s registers to a driver library, which provides a standardized set of application program interfaces (APIs) that enable software developers to quickly manipulate various peripherals available on the device. Even higher abstraction layers are also available such as the extremely user-friendly Energia platform, which enables even beginners to quickly prototype an application on the MSP432. The MSP432 Launchpad is supported by a host of technical data, application notes, training modules, and software examples all encapsulated inside one handy package called MSPWare. Available as both a stand-alone download package and on the TI Cloud Development Site, dev.ti.com, the features of the MSP432 may be extended with a full line of BoosterPack plug-in modules. The MSP432 is also supported by a variety of third-party modular sensors and software compilers in the back. A thorough introduction to the MSP432 line of microcontrollers, programming techniques, and interface concepts are provided along with considerable tutorial information with many illustrated examples. Each chapter provides laboratory exercises to apply what has been presented in the chapter. The book is intended for an upper-level undergraduate course in microcontrollers or mechatronics but may also be used as a reference for capstone design projects, practicing engineers already familiar with another microcontroller, who require a quick tutorial on the microcontroller. Finally, middle school and high school students will find the MSP432 highly approachable via the Energia Rapid Prototyping System.