INTRODUCTION

**Bestselling electronics author Simon Monk teaches BeagleBone Black programming skills**

It’s the “American Pi!” BeagleBone Black, the U.S.’s answer to the massively successful Raspberry Pi, is the latest, wildly popular single-board computer. Bestselling author Simon Monk shows how to program the BBB using the native BoneScript language.

Readers will learn how to interface with expansion capes to add capabilities to the basic board, and how to create a Web interface for BBB. Two hardware projects demonstrate how to use the board as an embedded platform.

- A fast-paced introduction that gets the reader up and running quickly
- A practical approach well illustrated with examples for software and hardware projects
DESCRIPTION

Electronics guru Simon Monk makes it easy to learn BeagleBone Black programming skills!

Learn how to program the BeagleBone Black—the wildly popular single-board computer—using JavaScript and the native BoneScript language. You’ll find out how to interface with expansion capes to add capabilities to the basic board, and how to create a Web interface for BBB. Two hardware projects demonstrate how to use the board as an embedded platform.

- A fast-paced introduction that gets you up and running quickly
- Well illustrated with examples for software and hardware projects
- Explains how to attach electronics to the BBB
- No prior electronics or programming experience required

Make Great Stuff!
TAB, an imprint of McGraw-Hill Professional, is a leading publisher of DIY technology books for makers, hackers, and electronics hobbyists.

ABOUT THE AUTHOR

Dr. Simon Monk (Preston, UK) has a degree in Cybernetics and Computer Science and a PhD in Software Engineering. He is the bestselling author of Programming Arduino, Programming the Raspberry Pi, and other books.
INTRODUCTION

A unique, 10-step improvement process for identifying and solving the root causes of supply chain problems using the latest Lean Manufacturing principles

Fully revised to cover the dramatic developments in supply chain improvement methods, Lean Six Sigma for Supply Chain Management, Second Edition provides the guidelines, tools, and techniques required to eliminate supply chain issues and boost company performance. This updated edition offers new coverage of enterprise kaizen events, big data analytics, customer loyalty metrics, security, and sustainability.

This practical guide demonstrates how lead time and demand impact customer service and inventory investment levels and provides a blueprint for supply chain continuous improvement.

- Features approximately 25% new material covering the latest advances in supply chain management methodologies
- Affiliated web site includes Excel inventory models, Six Sigma templates, sample tests, and
DESCRIPTION

A unique, 10-step improvement process for identifying and solving the root causes of supply chain problems using the latest lean manufacturing principles

Fully revised to cover the dramatic developments in supply chain improvement methods, Lean Six Sigma for Supply Chain Management, Second Edition provides the guidelines, tools, and techniques required to eliminate supply chain issues and boost company performance. This updated edition offers new coverage of enterprise kaizen events, big data analytics, customer loyalty metrics, security, and sustainability. This practical guide demonstrates how lead time and demand impact customer service and inventory investment levels and provides a blueprint for supply chain continuous improvement.

- Features approximately 25% new material covering the latest advances in supply chain management methodologies
- Written by a Lean Six Sigma consultant and master black belt
- Filled with proven strategies for building a robust program for supply chain improvement
- Excel inventory models, Six Sigma templates, sample tests, and review questions available online

ABOUT THE AUTHOR

James William Martin (Rehoboth, MA), a Lean Six Sigma consultant and Master Black Belt, is president of Six Sigma Integration, Inc. He is the author of several books and articles on quality and process improvement.
INTRODUCTION

This fully revised bestseller integrates Lean methodologies and certification coverage and includes videos, quizzes, and sample files.

The Six Sigma Handbook, Fourth Edition shows readers how to realize significant gains in quality, productivity, and sales in any organization. This new edition offers vast improvements to examples, integrating videos, sample data files for download, and online quizzes for all levels of Six Sigma certification. The content features further integration of Lean methods and examples; healthcare examples; risk management, and case studies of various deployment or analysis techniques.

- Includes two sample quizzes for Six Sigma certification, for Green Belt and Black Belt candidates
- Links to five videos that walk readers through specific processes, such as Minitab functions, statistical process control, and how to read a Pareto chart
DESCRIPTION

This fully revised bestseller integrates Lean methodologies and certification coverage and features bonus videos, quizzes, and sample files.

The Six Sigma Handbook, Fourth Edition reveals how to realize significant gains in quality, productivity, and sales in any organization. This new edition offers vast improvements to examples and offers videos, sample data files for download, and online quizzes for all levels of Six Sigma certification. The content features further integration of Lean methods and examples, healthcare examples, risk management, and case studies of various deployment and analysis techniques.

- Includes two sample quizzes for Six Sigma certification, one for Green Belt candidates and one for Black Belt candidates
- Links to five videos that walk you through specific processes, such as Minitab functions, statistical process control, and how to read a Pareto chart
- Clearly defines the management responsibilities and actions necessary for successful deployment.
- Fully incorporates Lean, problem-solving, and statistical techniques within the Six Sigma methodology.

ABOUT THE AUTHOR

Thomas Pyzdek (Tucson, AZ), a Six Sigma consultant with more than 40 years of experience, is a recipient of the American Society for Quality (ASQ) Edwards Medal and other awards.

Paul Keller (Tucson, AZ) is President and COO of Quality America, a Six Sigma Training company.
INTRODUCTION

Dr. Juran’s life work on quality—boiled down to a concise guide to creating a strong, successful, globally competitive enterprise

The Juran Institute team presents the leadership values, beliefs, and actions of top companies, and identifies the strategies that have resulted in measurable success. *Juran’s Quality Essentials* offers succinct, field-tested methods applicable to any industry, from service to manufacturing, and includes realistic timetables of implementation.

The book describes three universal quality management methods: designing innovative products and services; creating breakthroughs in current performance; and assuring repeatable and compliant processes.

- Shows how to align quality goals and methods to a company’s strategic plan
- Demonstrates how executive leadership is the key to a company’s quality revolution—and how to make quality happen.
Dr. Juran’s life work on quality—boiled down to a concise guide to creating a strong, successful, globally competitive enterprise

Dr. Joseph Juran was a true visionary in the field of quality, and his words continue to inspire. One of his main mantras was “Take care of the quality, and the rest will take care of itself.” This work is devoted to just that—taking care of the quality. In it, the Juran Institute team presents the leadership values, beliefs, and actions of top companies, and identifies the strategies that have resulted in measurable success. *Juran’s Quality Essentials* offers succinct, field-tested methods applicable to any industry, from service to manufacturing, and includes realistic timetables of implementation. This unique resource describes three universal quality management methods: 1. designing innovative products and services; 2. creating breakthroughs in current performance; and 3. assuring repeatable and compliant processes.

- Reveals how to align quality goals and methods to a company’s strategic plan
- Provides a transformation model and roadmap
- Demonstrates how executive leadership is the key to a company’s quality revolution—and how to make quality happen.
- Filled with insider tips for staying adaptable and using a benchmark to sustain performance
- Shows how to apply planning, control, and improvement to quality leadership for competitive advantage

**ABOUT THE AUTHOR**

*Joseph A. De Feo (Southbury, CT)*, a leading quality management practitioner, is president the Juran Institute, Inc., and successor to Dr. Joseph Juran.

*Joseph M. Juran* was an international leader in the quality management field for more than 70 years, founder of the Juran Institute, and is considered the father of quality management.
INTRODUCTION

A complete, DIY guide to building a custom quadcopter based on the popular Elev-8 kit from Parallax

- Design customizations in the book push the capabilities of the platforms in terms of lifting ability, power, and flight characteristics
- Uses a popular, low-cost platform: the Elev-8 with the Parallax Propeller as its onboard microcontroller
- Includes step-by-step instructions, photographs, and programming tips
- Discusses remote video systems using the GoPro HD to obtain both real-time and recorded video

DESCRIPTION

A complete, DIY guide to building a custom quadcopter based on the
Elev-8 kit from Parallax

Learn how to create, customize, and experiment with your own quadcopter and let your creativity soar! *Build Your Own Quadcopter: Power Up Your Designs with the Parallax Elev-8* shows you everything you need to know to get your multi-rotor machine off the ground. The design customizations examined in the book push the capabilities of the platforms in terms of lifting ability, power, and flight characteristics. This step-by-step guide covers remote video systems using the GoPro HD to obtain both real-time and recorded video. The author also explains quadcopter flight dynamics and provides tips on how to train to fly one safely and successfully.

- Step-by-step instructions with photographs show you how to build and customize your own multi-rotor copters
- Programming instructions are provided for the Parallax Propeller microcontroller
- Explains servos and servo controllers, as well as incorporating servos into the design to allow for greater capabilities
- Covers radio control systems and telemetry subsystems, as well as the motor control modules (ESCs) that function as interfaces between the motors and the microprocessors
- Uses relatively inexpensive and yet versatile platforms
- Introduces new, original design concepts developed by the author
- Features valuable tips and tricks learned from experience
- Provides a flexible, customizable platform for experiments, research, and invention

**ABOUT THE AUTHOR**

**Donald Norris** is a quadcopter enthusiast and a private pilot. He is also an electronics engineer with an advanced degree in Production Management. Donald is retired from civilian government service with the US Navy specializing in acoustics and digital signal processing. He has more than 13 years’ experience as a professional software developer using programming languages including C, C#, C++, Python and Java. Don also has five years’ experience as a certified IT security consultant.
INTRODUCTION

A single-volume engineering text on sustainable options for transportation

- Covers the role of transportation in sustainable development, alternative fuels, and the relationship between electric vehicles and the smart grid
- Features equations, worked-out examples, case studies, and end-of-chapter problems
- Instructor’s Manual available

DESCRIPTION

A single-volume engineering text on sustainable options for transportation

*Sustainable Transportation Systems Engineering* offers timely coverage of the role of transportation in sustainable development, the emergence of alternative fuels, and the relationship between electric vehicles and the smart grid. The book presents a systems approach
to solving transportation problems and covers technology considerations, modeling of consumer choice, passenger transportation, and freight transportation. System-wide transportation issues, such as energy security, air quality, and emergency planning, are also discussed. This comprehensive resource features equations, worked-out examples, case studies, and end-of-chapter problems.

Coverage includes:

- Providing access to amenities and goods movement without excessive congestion
- Meeting transportation demand without excessive financial cost
- Assuring access to a transportation energy supply for the long term
- Reducing greenhouse gas emissions and other negative ecological impacts
- Intramodal and intermodal transportation
- Developing alternative fuels and power delivery platforms
- Urban air quality
- Transportation security
- Hazardous transportation management

ABOUT THE AUTHOR

Francis M. Vanek, Ph.D., is a Lecturer and Research Assistant in the Departments of Mechanical & Aerospace Engineering and Civil & Environmental Engineering and the Systems Engineering Program at Cornell University, where he specializes in energy efficiency, alternative energy, and energy for transportation. He is also a consultant with Taitem Engineering in Ithaca.

Ricardo A. Daziano joined the CEE faculty in January 2011 adding a new dimension to the area of sustainable systems engineering in both teaching and research. Thus far, his research has focused on theoretical and applied econometrics of consumer behavior, specifically on discrete choice models applied to technological innovation and transportation. Daziano's specific empirical research interests include the analysis of pro-environmental preferences toward low-emission vehicles, modeling the adoption of sustainable travel behavior, estimating willingness-to-pay for renewable energy, and forecasting consumers’ response to environmentally friendly energy sources.
INTRODUCTION

The latest methods for troubleshooting and maintaining process equipment

- Explains how to diagnose, troubleshoot, and correct problems with chemical and petroleum refining process equipment
- Contains five new chapters covering state-of-the-art design and function of process equipment
- Effectively illustrates how theory applies to understanding the root causes of real-world plant operating problems

DESCRIPTION

The latest methods for troubleshooting and maintaining process equipment

Applicable to a broad range of technicians and industries and fully updated throughout, A Working Guide to Process Equipment, Fourth Edition explains how to diagnose, troubleshoot, and correct
problems with chemical and petroleum refining process equipment. This new edition contains five new chapters covering state-of-the-art design and function of process equipment. All chapters in the book are updated with the latest troubleshooting and problem-solving techniques. This practical resource effectively illustrates how theory applies to understanding the root causes of real-world plant operating problems.

Revisions include:

- Effect of perforated tray panel distortion on tray flooding and fractionation efficiency
- How multi-component fractionation differs from binary fractionation
- Effect on vapor-liquid tray loads
- Effect on the reflux drum temperature and pressure
- Simple calculation methods and the significance of constant condenser duty
- Current operating experience with shell and tube exchangers using helical baffles
- Problems with twisted tube exchangers
- Where to use spiral heat exchangers
- Sintered metal tubing for reboilers in pure component, clean hydrocarbon service
- Current design and operating practices for waste water strippers
- NH₃, H₂S, sour water, and Amine systems
- Recent design and operating problems with steam condensate collection systems
- Introduction of the concept of the "Point of Optimum Drainability"
- Modern mechanical seal designs for centrifugal pumps
- Expanded chapters on vacuum system operation, ejector design (both steam and liquids), and surface condenser
- Section on the importance and design of barometric seal leg including vacuum seal drum design
- Advantages of indirect combustion air pre-heaters
- Methods to reduce CO₂ emissions as a result improper operations and poorly conceived projects

ABOUT THE AUTHOR

Norman P. Lieberman is a chemical engineer with more than 47 years of experience in process plant operation, design, and field troubleshooting. An independent consultant, he troubleshoots oil refinery and chemical plant process problems and prepares revamp designs. Lieberman teaches 20-25 seminars a year on "Troubleshooting Process Plant Operations" and is a top consultant, having authored six book on plant process operations and problems.
To get started, you will need: BeagleBone Black (got mine from Digikey, but you can get it elsewhere), USB cable (should come with the BBB), microSD (4GB or more), Windows computer. Open File Explorer and navigate to BeagleBone Getting Started. It may pop up right away, too. Double click on START.htm to open a web page saved to your BBB.
Scripting tools for BeagleBone and PocketBeagle. Contribute to jadonk/bonescript development by creating an account on GitHub. BoneScript is a node.js library for physical computing on embedded Linux, starting with support for BeagleBone. Information on the language is available at http://nodejs.org. To check the version and to see if BoneScript is in your path, try running: node -pe "require('bonescript').getPlatform().bonescript". Additional documentation is available at http://beagleboard.org/bonescript. Program your own BeagleBone Black projects! Build creative BeagleBone Black devices--no prior programming or electronics experience required. In Programming the BeagleBone Black. If you want to get started with the BeagleBone and have some coding and electronics experience already then it is worth getting. However, it is a very specific path to a few projects. To fit projects into a < 200 page book too much has been breezed over. Programming Environment. Cloud9 Web IDE. JavaScript, Node, and BoneScript. JavaScript. Node. BoneScript. Experimenting. Numbers. You’ll also learn how to connect to your BeagleBone Black over USB and immediately get started running some simple sample programs that are shipped with the BeagleBone Black. What Is the BeagleBone Black? The BeagleBone Black, shown in Figure 1-1, is America’s answer to the massively successful British invention, the Raspberry Pi. The BeagleBone Black is a $45 credit-card-sized single-board computer that is currently being shipped in huge numbers to hobbyists and makers keen to learn how to program the board and connect it up to external electronics. Figure 1-1 A BeagleBone Black.