

## Programming Serial Ports And Multi Port Devices With

Annotation This book provides a detailed description about the practical considerations in multiple languages programming as well as the interfaces among different languages in the Window environment. Authentic examples and detailed explanations are combined together in this book to provide the readers a clear picture as how to handle the multiple languages programming in Windows.

Build powerful Robots and IoT solutions using Intel Edison About This Book Learn to build advanced level robots with Intel Edison and Arduino Efficiently build and program home automation and IoT projects with Intel Edison Master the skills of creating enticing projects with Intel Edison. Who This Book Is For If you are a hobbyist, robot engineer, IoT enthusiast, programmer, or developer who wants to create autonomous projects with Intel Edison, then this book is for you. Prior programming knowledge would be beneficial. What You Will Learn Program your device using the Arduino processor language, Python, and Node.js Interface different sensors with the Intel Edison Build a home automation system using MQTT, Android, and WPF Perform face detection using Intel Edison Develop a high-speed line follower robot Control a robot using a PC application and an custom controller In Detail Change the way you look at embedded electronics with Intel Edison. It is a small computing platform packed with a set of robust features to deliver hands-on performance, durability, and software support. This book is a perfect place to kickstart development and rapid prototyping using Intel Edison. It will start by introducing readers to the Intel Edison board and explaining how to get started with it. You will learn how to build a mini weather station, which will help you to acquire temperature and smoke level and push it to the IoT platform. Then you will see how to build a home automation device and control your appliances using an Android app. Furthermore, we will build a security system using a webcam to detect faces and perform voice recognition. Toward the end, the book will demonstrate how you can build two robots, which will be based on different line sensing sensors and can be controlled by a PC. The book will guide the readers through each and every step of execution of a project, using Intel Edison. Style and approach A project-based guide that will take the readers through various domains of projects like robotics, IoT and so on. Step-by-step instructions and illustrations explain how to build thirty-five electronic games and gadgets, with easy-to-follow plans, clear diagrams, and expert advice for each project.

The first microcontroller textbook to provide complete and systemic introductions to all components and materials related to the ARM® Cortex®-M4 microcontroller system, including hardware and software as well as practical applications with real examples. This book covers both the fundamentals, as well as practical techniques in designing and building microcontrollers in industrial and commercial applications. Examples included in this book have been compiled, built, and tested Includes Both ARM® assembly and C codes Direct Register Access (DRA) model and the Software Driver (SD) model programming techniques and discussed If you are an instructor and adopted this book for your course, please email [ieeeproposals@wiley.com](mailto:ieeeproposals@wiley.com) to get access to the instructor files for this book.

The popularity of serial communications demands that additional serial port interfaces be developed to meet the expanding requirements of users. The Windows Serial Port Programming Handbook illustrates the principles and methods of developing various serial port interfaces using multiple languages. This comprehensive, hands-on, and practical guide to serial interface programming enables you to develop sophisticated interfaces and apply them in real-world applications. Each chapter addresses a language and how it can be applied in the development of serial port interfaces. The seven languages discussed are: ANSI C Visual C++ Visual Basic LabVIEW MATLAB Smalltalk Java Step by step and line by line, the Handbook clearly explains the interfacing techniques used for each different language in the serial port communication. Examples from actual systems have been compiled and debugged, with detailed source code for each included on an accompanying CD-ROM.

Offers Projects Such as a Computer Controlled Weather Station & a Text-to-Speech Synthesizer. Includes Schematics & Building Tips

Google and YouTube use Python because it's highly adaptable, easy to maintain, and allows for rapid development. If you want to write high-quality, efficient code that's easily integrated with other languages and tools, this hands-on book will help you be productive with Python quickly -- whether you're new to programming or just new to Python. It's an easy-to-follow self-paced tutorial, based on author and Python expert Mark Lutz's popular training course. Each chapter contains a stand-alone lesson on a key component of the language, and includes a unique Test Your Knowledge section with practical exercises and quizzes, so you can practice new skills and test your understanding as you go. You'll find lots of annotated examples and illustrations to help you get started with Python 3.0. Learn about Python's major built-in object types, such as numbers, lists, and dictionaries Create and process objects using Python statements, and learn Python's general syntax model Structure and reuse code using functions, Python's basic procedural tool Learn about Python modules: packages of statements, functions, and other tools, organized into larger components Discover Python's object-oriented programming tool for structuring code Learn about the exception-handling model, and development tools for writing larger programs Explore advanced Python tools including decorators, descriptors, metaclasses, and Unicode processing

Informatics Education – Supporting Computational Thinking contains papers presented at the Third International Conference on Informatics in Secondary Schools – Evolution and Perspective, ISSEP 2008, held in July 2008 in Torun, Poland. As with the proceedings of the two previous ISSEP conferences (2005 in Klagfurt, Austria, and 2006 in Vilnius, Lithuania), the papers presented in this volume address issues of informatics education transcending national boundaries and, therefore, transcending differences in the various national legislation and organization of the educational system. Observing these issues,

one might notice a trend. The proceedings of the First ISSEP were termed From Computer Literacy to Informatics Fundamentals [1]. There, broad room was given to general education in ICT. The ECDL, the European Computer Driving License, propagated since the late 1990s, had penetrated school at this time already on a broad scale and teachers, parents, as well as pupils were rather happy with this situation. Teachers had material that had a clear scope, was relatively easy to teach, and especially easy to examine. Parents had the assurance that their children learn “modern and relevant stuff,” and for kids the computer was sufficiently modern so that anything that had to do with computers was considered to be attractive. Moreover, the difficulties of programming marking the early days of informatics education in school seemed no longer relevant. Some colleagues had a more distant vision though.

Written in an informal, informative style, this authoritative guide goes way beyond the standard reference manual. It discusses each of the POSIX.4 facilities and what they mean, why and when you would use each of these facilities, and trouble spots you might run into.

One of the most thorough introductions available to the world's most popular microcontroller!

From cell phones and television remote controls to automobile engines and spacecraft, microcontrollers are everywhere. Programming these prolific devices is a much more involved and integrated task than it is for general-purpose microprocessors; microcontroller programmers must be fluent in application development, systems programming, and I/O operation as well as memory management and system timing. Using the popular and pervasive mid-range 8-bit Microchip PIC® as an archetype, Microcontroller Programming offers a self-contained presentation of the multidisciplinary tools needed to design and implement modern embedded systems and microcontrollers. The authors begin with basic electronics, number systems, and data concepts followed by digital logic, arithmetic, conversions, circuits, and circuit components to build a firm background in the computer science and electronics fundamentals involved in programming microcontrollers. For the remainder of the book, they focus on PIC architecture and programming tools and work systematically through programming various functions, modules, and devices. Helpful appendices supply the full mid-range PIC instruction set as well as additional programming solutions, a guide to resistor color codes, and a concise method for building custom circuit boards. Providing just the right mix of theory and practical guidance, Microcontroller Programming: The Microchip PIC® is the ideal tool for any amateur or professional designing and implementing stand-alone systems for a wide variety of applications.

Provides instructions for building thirty-three projects that interact with the physical world, including a stuffed monkey video game controller and a battery powered GPS that reports its location over Bluetooth. A Linux smart home is about controlling and monitoring devices and information around your home using a standard personal computer, Linux, and its vast array of open source tools. You don't have to be a master programmer to create one. If you like to tinker with Linux, Linux Smart Homes For Dummies will guide you through cool home automation projects that are as much fun to work on as they are to use. Home automation used to be limited to turning on lights and appliances, and maybe controlling your thermostat and lawn sprinkler, from your computer. While you still might not be able to create all the Jetsons' toys, today you can also Build a wireless network Create and set up a weather station Automate your TV and sound system Spy on your pets when you're not home Set up an answering system that knows what to do with calls Increase your home's security If you know how to use Linux and a few basic development tools — Perl, the BASH shell, development libraries, and the GNU C compiler—Linux Smart Homes For Dummies will help you do all these tricks and more. For example, you can Discover the best sources for Linux-based home automation devices Set up a wireless network, create a wireless access point, build a bridge between wired and wireless networks, and route your own network traffic Build a personal video recorder with MythTV that will record to DVD, or set up a wireless streaming music system Create a smart phone system that takes messages and forwards them to your fax, modem, or answering machine Build a weather station that notifies you of severe weather alerts Control and secure your home automation network, and even check on your house when you're away The bonus CD-ROM includes all kinds of cool open source software for your home automation projects. Linux Smart Homes For Dummies even includes lists of cool gadgets to check out and great ways to automate those boring household chores. A smart home's a happy home!

Digital Visual Fortran is the latest version of a major programming language tool used by scientists and engineers. Written by key technical writers from the Digital Visual Fortran product team, Digital Visual Fortran Programmer's Guide presents in printed form the critical portions of the official programmer's guide, previously only available online. The result is the authoritative book on Digital Visual Fortran's features and how to use them to create effective applications. Digital Visual Fortran is the language of choice for computation-intensive scientific and engineering applications, financial applications, and other programs. Digital recently acquired Fortran technology and rights from Microsoft that allows them to use the Microsoft Developer Studio Integrated Development Environment, which is featured in Microsoft's Visual C++ and Visual Basic. The result is that Digital Visual Fortran is much easier to use and looks and works much like Microsoft's industry-leading programming products for other market segments. The official programmer's guide to Digital Visual Fortran for Version 6.0A Authors are experts from the Digital Visual Fortran product group New Digital Fortran version include Microsoft interface and object technologies

This book analyzes energy and reliability as major challenges faced by designers of computing frameworks in the nanometer technology regime. The authors describe the existing solutions to address these challenges and then reveal a new reconfigurable computing platform, which leverages high-density nanoscale memory for both data storage and computation to maximize the energy-efficiency and reliability. The energy and reliability benefits of this new paradigm are illustrated and the design challenges are discussed. Various hardware and software aspects of this exciting computing paradigm are described, particularly with respect to hardware-software co-designed frameworks, where the hardware unit can be reconfigured to mimic diverse application behavior. Finally, the energy-efficiency of the paradigm described is compared with other, well-known reconfigurable computing platforms.

Master programming Arduino with this hands-on guide Arduino Sketches is a practical guide to programming the increasingly popular microcontroller that brings gadgets to life. Accessible to tech-lovers at any level, this book provides expert instruction on Arduino programming and hands-on practice to test your skills. You'll find coverage of the various Arduino boards, detailed explanations of each standard library, and guidance on creating libraries from scratch – plus practical examples that demonstrate the everyday use of the skills you're learning. Work on increasingly advanced programming projects, and gain more control as you learn about hardware-specific libraries and how to build your own. Take full advantage of the Arduino API, and learn the tips and tricks that will broaden your skillset. The Arduino development board comes with an embedded processor and sockets that allow you to quickly attach peripherals without tools or solders. It's easy to build, easy to program, and requires no specialized hardware. For the hobbyist, it's a dream come true— especially as the popularity of this open-source project inspires even the major tech companies to develop compatible products. Arduino Sketches is a practical, comprehensive guide to getting the most out of your Arduino setup. You'll learn to: Communicate through Ethernet, WiFi, USB, Firmata, and Xbee Find, import, and update user

libraries, and learn to create your own Master the Arduino Due, Esplora, Yun, and Robot boards for enhanced communication, signal-sending, and peripherals Play audio files, send keystrokes to a computer, control LED and cursor movement, and more This book presents the Arduino fundamentals in a way that helps you apply future additions to the Arduino language, providing a great foundation in this rapidly-growing project. If you're looking to explore Arduino programming, Arduino Sketches is the toolbox you need to get started.

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

InfoWorld is targeted to Senior IT professionals. Content is segmented into Channels and Topic Centers. InfoWorld also celebrates people, companies, and projects.

The popularity of serial communications demands that additional serial port interfaces be developed to meet the expanding requirements of users. The Windows Serial Port Programming Handbook illustrates the principles and methods of developing various serial port interfaces using multiple languages. This comprehensive, hands-on, and practical guide

When PCs and peripherals began showing up with USB ports in the late 1990s, many predicted that legacy serial (COM) ports would soon be obsolete. The predictions were wrong. While most standard peripherals now use USB, serial ports are the interface of choice for devices that require simple programming, long cables, operation in harsh environments, or basic networking capabilities. Serial ports are more versatile than ever due to developments such as USB virtual COM ports, the .NET SerialPort class, enhanced microcontroller USARTs, and new wireless interfaces. Serial Port Complete Second Edition is a completely revised and updated guide to programming and interfacing to COM ports, USB virtual COM ports, and serial ports in embedded systems. Author Jan Axelson shows how to: § Access COM ports using the SerialPort class in Microsoft's .NET Framework. § Program embedded systems for serial-port communications. § Design and program USB devices accessed as virtual COM ports. § Upgrade RS-232 designs to USB with no changes to host software or device firmware. § Design circuits for electrically harsh environments. § Create serial networks of embedded systems and PCs. § Use serial ports in wireless links. Example code is provided for PCs and embedded systems in both Basic and C/C#. The author maintains a website with articles, program code, and other links of interest to developers of serial-port applications ([janaxelson.com](http://janaxelson.com)).

The Windows Serial Port Programming Handbook CRC Press

For more than 40 years, Computerworld has been the leading source of technology news and information for IT influencers worldwide. Computerworld's award-winning Web site ([Computerworld.com](http://Computerworld.com)), twice-monthly publication, focused conference series and custom research form the hub of the world's largest global IT media network.

This book focuses on the design, implementation and applications of embedded systems and advanced industrial controls with microcontrollers. It combines classical and modern control theories as well as practical control programming codes to help readers learn control techniques easily and effectively. The book covers both linear and nonlinear control techniques to help readers understand modern control strategies. The author provides a detailed description of the practical considerations and applications in linear and nonlinear control systems. They concentrate on the ARM® Cortex®-M4 MCU system built by Texas Instruments™ called TM4C123GXL, in which two ARM® Cortex®-M4 MCUs, TM4C123GH6PM, are utilized. In order to help the reader develop and build application control software for a specified microcontroller unit. Readers can quickly develop and build their applications by using sample project codes provided in the book to access specified peripherals. The book enables readers to transfer from one interfacing protocol to another, even if they only have basic and fundamental understanding and basic knowledge of one interfacing function. Classical and Modern Controls with Microcontrollers is a powerful source of information for control and systems engineers looking to expand their programming knowledge of C, and of applications of embedded systems with microcontrollers. The book is a textbook for college students majored in CE, EE and ISE to learn and study classical and modern control technologies. The book can also be adopted as a reference book for professional programmers working in modern control fields or related to intelligent controls and embedded computing and applications. Advances in Industrial Control reports and encourages the transfer of technology in control engineering. The rapid development of control technology has an impact on all areas of the control discipline. The series offers an opportunity for researchers to present an extended exposition of new work in all aspects of industrial control.

Stroke-Survivor's Pathway of Success! COMMON COMPUTER ABBREVIATIONS Up-to-Date Reference Guide to Abbreviations in Computers and Internet By: John S. DeSousa, B.S.E.E., M.S.E.E., (Stroke-Survivor). This book has been written with non-technical individuals in mind, and every effort has been made to collect the most frequently used abbreviations. In first part of this book, few hundreds of pages are dedicated to listings of abbreviations used in Computers and Internet. In second part ten useful appendices are given as: 1. Appendix A: Electrical information to operate a computer or laptop. 2. Appendix B: SI electrical characteristic symbols. 3. Appendix C: Scientific

usage of Greek Alphabet. 4. Appendix D: Decimal prefixes used in computers. 5. Appendix E: Latin and Roman numerical symbols. 6. Appendix F: "Smiley Faces" in E-mail and Newsgroup. 7. Appendix G: "Country Code E-mail" to locate origin of an E-mail. 8. Appendix H: A guide to metric measurement conversion. 9. Appendix I: US spelled words versus International English. 10. Appendix J: Inspiring and Motivation Words.

\* With this book readers might well be able to build the next Mars Rover. \* First book out on Java robotics. \* The biggest selling point about this book is that no one else shows readers how to combine the power of their PC with a robust programming language in Java to create exciting robotics. \* The book is a great teaching aid (in robotics or software) that establishes a new paradigm for thinking about robotics along with simpler ways to do things, i.e., vs. the old way using microcontrollers.

This book constitutes revised, selected, and invited papers from the 4th International Workshop on Engineering Multi-Agent Systems, EMAS 2016, held in Singapore, in May 2016, in conjunction with AAMAS. The 10 full papers presented in this volume were carefully reviewed and selected from 14 submissions. The book also contains 2 invited papers; extended versions of AAMAS 2016 demonstration abstracts. EMAS deals with MAS software engineering processes, methodologies and techniques; Programming languages for MAS; Formal methods and declarative technologies for the specification, validation and verification of MAS; and development tools.

This book, 8051 Microcontroller: Hardware, Software and Applications, follows an integrated approach to architecture and programming. It is unique as it includes programs for interfacing experiments, both in 8051 assembly and C language.

PCMag.com is a leading authority on technology, delivering Labs-based, independent reviews of the latest products and services. Our expert industry analysis and practical solutions help you make better buying decisions and get more from technology.

Assuming only neighbor-neighbor interaction among vehicles, this monograph develops distributed consensus strategies that ensure that the information states of all vehicles in a network converge to a common value. Readers learn to deal with groups of autonomous vehicles in aerial, terrestrial, and submarine environments. Plus, they get the tools needed to overcome impaired communication by using constantly updated neighbor-neighbor interchange.

This book aims to develop professional and practical microcontroller applications in the ARM-MDK environment with Texas Instruments MSP432P401R LaunchPad kits. It introduces ARM Cortex-M4 MCU by highlighting the most important elements, including: registers, pipelines, memory, and I/O ports. With the updated MSP432P401R Evaluation Board (EVB), MSP-EXP432P401R, this MCU provides various control functions with multiple peripherals to enable users to develop and build various modern control projects with rich control strategies. Micro-controller programming is approached with basic and straightforward programming codes to reduce learning curves, and furthermore to enable students to build embedded applications in more efficient and interesting ways. For authentic examples, 37 Class programming projects are built into the book that use MSP432P401R MCU. Additionally, approximately 40 Lab programming projects with MSP432P401R MCU are included to be assigned as homework. Covers how to program LEGO Mindstorms using the Java Communications Extension API; the RCXPort Java API; the RCXJava API; the leJOS system, programming, tools, and internals; and Jini.

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