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# Arduino C Cours 01 1 Didel News Fr Arduino Grove

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Introduction to Embedded Systems

Beginning C for Arduino

Arduino: A Quick-Start Guide

Introduction to Arduino

Beginning Arduino Ov7670 Camera Development

Making Things Move DIY Mechanisms for Inventors, Hobbyists, and Artists

Embedded Controllers Using C and Arduino

A DIY Smart Home Guide: Tools for Automating Your Home Monitoring and Security

Using Arduino, ESP8266, and Android

Arduino Workshop

TinyML

The Definitive Guide to ARM® Cortex®-M3 and Cortex®-M4 Processors

Arduino Sensors for Everyone

C Programming for Arduino

Arduino Cookbook

Exploring Arduino

Arduino: A Technical Reference

Programming Arduino Next Steps: Going Further with Sketches

Arduino for Kids

Python Programming for Arduino

Arduino Robotics

Arduino for Beginners

Educational Robotics in the Context of the Maker Movement

C Programming For the PC the MAC and the Arduino Microcontroller System

Learn Robotics with Raspberry Pi

AVR Programming

Practical UML Statecharts in C/C++

Exploring Raspberry Pi

Intel Galileo and Intel Galileo Gen 2

Python for the Lab

Thesaurus of Scales and Melodic Patterns

Embedded C Programming and the Atmel AVR (Book Only)

Arduino Project Handbook

Getting Started with Arduino

Programming Arduino Getting Started with Sketches

Arduino For Dummies

Arduino Internals

Arduino for Arduinians

A Hands-On Course in Sensors Using the Arduino and Raspberry Pi

Arduino in Action

*Arduino C*                      *Downloaded*  
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## **CLARENCE PATRICK**

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### **Introduction to Embedded Systems**

Simon and Schuster  
Getting Started with  
Arduino"O'Reilly Media,  
Inc."

*Beginning C for Arduino*  
McGraw Hill Professional  
In Learn Robotics with

Raspberry Pi, you'll learn how to build and code your own robot projects with just the Raspberry Pi microcomputer and a few easy-to-get components - no prior experience necessary! Learn Robotics with Raspberry Pi will take you from inexperienced maker to robot builder. You'll start off building a two-wheeled robot powered by a Raspberry

Pi minicomputer and then program it using Python, the world's most popular programming language. Gradually, you'll improve your robot by adding increasingly advanced functionality until it can follow lines, avoid obstacles, and even recognize objects of a certain size and color using computer vision. Learn how to: - Control

your robot remotely using only a Wii remote - Teach your robot to use sensors to avoid obstacles - Program your robot to follow a line autonomously - Customize your robot with LEDs and speakers to make it light up and play sounds - See what your robot sees with a Pi Camera As you work through the book, you'll learn fundamental electronics skills like how to wire up parts, use resistors and regulators, and determine how much power your robot needs. By the end, you'll have

learned the basics of coding in Python and know enough about working with hardware like LEDs, motors, and sensors to expand your creations beyond simple robots.

No Starch Press  
Deep learning networks are getting smaller. Much smaller. The Google Assistant team can detect words with a model just 14 kilobytes in size—small enough to run on a microcontroller. With this practical book you'll enter the field of TinyML, where deep learning and

embedded systems combine to make astounding things possible with tiny devices. Pete Warden and Daniel Situnayake explain how you can train models small enough to fit into any environment. Ideal for software and hardware developers who want to build embedded systems using machine learning, this guide walks you through creating a series of TinyML projects, step-by-step. No machine learning or microcontroller experience is necessary.

Build a speech recognizer, a camera that detects people, and a magic wand that responds to gestures Work with Arduino and ultra-low-power microcontrollers Learn the essentials of ML and how to train your own models Train models to understand audio, image, and accelerometer data Explore TensorFlow Lite for Microcontrollers, Google’s toolkit for TinyML Debug applications and provide safeguards for privacy and security Optimize latency, energy usage,

and model and binary size **Arduino: A Quick-Start Guide** Gilbut Publishing Ltd. Arduino Internals guides you to the heart of the Arduino board. Author Dale Wheat shares his intimate knowledge of the Arduino board—its secrets, its strengths and possible alternatives to its constituent parts are laid open to scrutiny in this book. You'll learn to build new, improved Arduino boards and peripherals, while conforming to the Arduino reference design. Arduino Internals begins

by reviewing the current Arduino hardware and software landscape. In particular, it offers a clear analysis of how the ATmega8 board works and when and where to use its derivatives. The chapter on the "hardware heart" is vital for the rest of the book and should be studied in some detail. Furthermore, Arduino Internals offers important information about the CPU running the Arduino board, the memory contained within it and the peripherals mounted on it. To be able to write

software that runs optimally on what is a fairly small embedded board, one must understand how the different parts interact. Later in the book, you'll learn how to replace certain parts with more powerful alternatives and how to design Arduino peripherals and shields. Since *Arduino Internals* addresses both sides of the Arduino hardware-software boundary, the author analyzes the compiler toolchain and again provides suggestions on how to

replace it with something more suitable for your own purposes. You'll also learn about how libraries enable you to change the way Arduino and software interact, and how to write your own library implementing algorithms you've devised yourself. *Arduino Internals* also suggests alternative programming environments, since many Arduino hackers have a background language other than C or Java. Of course, it is possible to optimize the way in which hardware and software

interact—an entire chapter is dedicated to this field. *Arduino Internals* doesn't just focus on the different parts of Arduino architecture, but also on the ways in which example projects can take advantage of the new and improved Arduino board. Wheat employs example projects to exemplify the hacks and algorithms taught throughout the book. Arduino projects straddling the hardware-software boundary often require collaboration between people of

different talents and skills which cannot be taken for granted. For this reason, Arduino Internals contains a whole chapter dedicated to collaboration and open source cooperation to make those tools and skills explicit. One of the crowning achievements of an Arduino hacker is to design a shield or peripheral residing on the Arduino board, which is the focus of the following chapter. A later chapter takes specialization further by examining Arduino protocols and communications, a field

immediately relevant to shields and the communication between peripherals and the board. Finally, Arduino Internals integrates different skills and design techniques by presenting several projects that challenge you to put your newly-acquired skills to the test! Please note: the print version of this title is black & white; the eBook is full color.

### **Introduction to Arduino** Apress

This book is a great investment for those interested in developing

camera related projects for the Arduino. These camera applications can involve security, surveillance, photography, toys, robots, and drones. Specifically, this book covers the Omnivision ov7670 digital camera and its use with the Arduino microcontroller. This book takes an interactive hands on approach and shows the reader in a step by step guide how to use the ov7670 with the Arduino and an SD card reader/writer to take photos, save them to an

SD card, and then to convert them to an easily viewable format. This book will save you many hours or even weeks of frustration in trying to get this camera to work correctly. This book also gives you the basic background on the Arduino and digital cameras in general so that you will be able to develop camera projects for cameras other than the ov7670. Who this book is for: 1. Beginners to the Arduino interested in developing custom Arduino camera related

projects that are suitable for photography, surveillance, security applications or for use with drones and robots. 2. High school and university students needing a quick start guide to using a low cost digital camera in their school projects. Key Selling Points: 1. Provides an interactive "hands on example" based beginner's quick start guide to using the extremely popular Omnivision ov7670 camera with the Arduino including using the undocumented features

and incorrectly documented features that are necessary to get the camera to operate correctly. 2. Provides a good starting point for Arduino based camera applications as diverse as image processing, photography, surveillance, and home security with professional quality reusable code for the reader to use in his or her own projects. 3. Covers the FIFO version of the ov7670 which is the preferred camera version for most camera projects. Table of Contents:



Chapter 1: Introducing the Omnivision OV7670 Camera A. What is the OV7670 Camera? B. Key Camera Terminology C. OV7670 Camera with AL422B FIFO Memory Overview D. Summary of Steps Needed for Taking a Photo Chapter 2: Introducing the Arduino A. What is an Arduino? B. The Arduino Mega 2560 C. Arduino Development System Requirements D. Arduino Software IDE E. Hands on Example: A simple Arduino "Hello World" program with an LED Chapter 3: Arduino Programming Language Basics A. C/C++ Language for Arduino Overview Chapter 4: Digital Design Review A. How Data is Stored in the ov7670 Camera B. Decimal Numbers (Base 10 Representation) C. Binary Numbers (Base 2 Representation) D. Hexadecimal Numbers (Base 16 Representation) E. Converting a Binary Number (Base 2) to a Hex Number (Base 16) F. Converting a Hexadecimal Number (Base 16) to a Binary Number (Base 2) G. Hands On Example: Setting Registers on the OV7670 Camera H. Boolean Variables, Logic and Truth Tables I. The Clock Pulse J. Reading Schematics K. Design Overview for the OV7670 Camera with FIFO Memory Chapter 5: Taking Photos with the Omnivision ov7670 Camera - Part 1 A. Overview of SD Card Storage for the Arduino B. Overview of Arduino's I2C Interface C. Hands on Example: Testing the I2C Interface with the OV7670 Camera D. Overview of the Omnivision ov7670 FIFO Camera Image
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 storage, and viewing the  
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 Register Defines Appendix  
 B: Image Capture Program  
 Variables  
**Beginning Arduino**  
**Ov7670 Camera**  
**Development** McGraw  
 Hill Professional  
 Python for the Lab is the

first book covering how to  
 develop instrumentation  
 software. It is ideal for  
 researchers willing to  
 automatize their setups  
 and bring their  
 experiments to the next  
 level. The book is the  
 product of countless  
 workshops at different  
 universities, and a  
 carefully design  
 pedagogical strategy.  
 With an easy to follow and  
 task-oriented design, the  
 book uncovers all the best  
 practices in the field. It  
 also shows how to design  
 code for long-term  
 maintainability, opening

the doors of fruitful  
 collaboration among  
 researchers from different  
 labs.  
*Making Things Move DIY  
 Mechanisms for Inventors,  
 Hobbyists, and Artists*  
 John Wiley & Sons  
 Get Your Move On! In  
 Making Things Move: DIY  
 Mechanisms for Inventors,  
 Hobbyists, and Artists,  
 you'll learn how to  
 successfully build moving  
 mechanisms through non-  
 technical explanations,  
 examples, and do-it-  
 yourself projects--from  
 kinetic art installations to  
 creative toys to energy-

harvesting devices. Photographs, illustrations, screen shots, and images of 3D models are included for each project. This unique resource emphasizes using off-the-shelf components, readily available materials, and accessible fabrication techniques. Simple projects give you hands-on practice applying the skills covered in each chapter, and more complex projects at the end of the book incorporate topics from multiple chapters. Turn your imaginative ideas

into reality with help from this practical, inventive guide. Discover how to: Find and select materials Fasten and join parts Measure force, friction, and torque Understand mechanical and electrical power, work, and energy Create and control motion Work with bearings, couplers, gears, screws, and springs Combine simple machines for work and fun Projects include: Rube Goldberg breakfast machine Mousetrap powered car DIY motor with magnet wire Motor direction and speed

control Designing and fabricating spur gears Animated creations in paper An interactive rotating platform Small vertical axis wind turbine SADbot: the seasonally affected drawing robot Make Great Stuff! TAB, an imprint of McGraw-Hill Professional, is a leading publisher of DIY technology books for makers, hackers, and electronics hobbyists. [Embedded Controllers Using C and Arduino](#) Springer Nature Arduino Project Handbook is a beginner-friendly

collection of electronics projects using the low-cost Arduino board. With just a handful of components, an Arduino, and a computer, you'll learn to build and program everything from light shows to arcade games to an ultrasonic security system. First you'll get set up with an introduction to the Arduino and valuable advice on tools and components. Then you can work through the book in order or just jump to projects that catch your eye. Each project includes

simple instructions, colorful photos and circuit diagrams, and all necessary code. Arduino Project Handbook is a fast and fun way to get started with microcontrollers that's perfect for beginners, hobbyists, parents, and educators. Uses the Arduino Uno board.

*A DIY Smart Home Guide: Tools for Automating Your Home Monitoring and Security Using Arduino, ESP8266, and Android*  
Newnes

Beginning C for Arduino is written for those who

have no prior experience with microcontrollers or programming but would like to experiment and learn both. This book introduces you to the C programming language, reinforcing each programming structure with a simple demonstration of how you can use C to control the Arduino family of microcontrollers. Author Jack Purdum uses an engaging style to teach good programming techniques using examples that have been honed during his 25 years

of university teaching. Beginning C for Arduino will teach you: The C programming language How to use C to control a microcontroller and related hardware How to extend C by creating your own library routines During the course of the book, you will learn the basics of programming, such as working with data types, making decisions, and writing control loops. You'll then progress onto some of the trickier aspects of C programming, such as using pointers effectively,

working with the C preprocessor, and tackling file I/O. Each chapter ends with a series of exercises and review questions to test your knowledge and reinforce what you have learned.

### **Arduino Workshop**

Pragmatic Bookshelf  
Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

*TinyML* No Starch Press  
Program Arduino with ease! Using clear, easy-to-follow examples,

Programming Arduino: Getting Started with Sketches reveals the software side of Arduino and explains how to write well-crafted sketches using the modified C language of Arduino. No prior programming experience is required! The downloadable sample programs featured in the book can be used as-is or modified to suit your purposes. Understand Arduino hardware fundamentals Install the software, power it up, and upload your first sketch Learn C language basics

Write functions in Arduino sketches Structure data using arrays and strings Use Arduino's digital and analog inputs and outputs in your programs Work with the Standard Arduino Library Write sketches that can store data Program LCD displays Use an Ethernet shield to enable Arduino to function as a web server Write your own Arduino libraries In December 2011, Arduino 1.0 was released. This changed a few things that have caused two of the sketches in this book to break. The change that

has caused trouble is that the classes 'Server' and 'Client' have been renamed to 'EthernetServer' and 'EthernetClient' respectively. To fix this: Edit sketches 10-01 and 10-02 to replace all occurrences of the word 'Server' with 'EthernetServer' and all occurrences of 'Client' with 'EthernetClient'. Alternatively, you can download the modified sketches for 10-01 and 10-02 from here: <http://www.arduino.cc/arduino-1-0> Make

Great Stuff! TAB, an imprint of McGraw-Hill Professional, is a leading publisher of DIY technology books for makers, hackers, and electronics hobbyists. *The Definitive Guide to ARM® Cortex®-M3 and Cortex®-M4 Processors* John Wiley & Sons The Arduino is a cheap, flexible, open source microcontroller platform designed to make it easy for hobbyists to use electronics in homemade projects. With an almost unlimited range of input and output add-ons,

sensors, indicators, displays, motors, and more, the Arduino offers you countless ways to create devices that interact with the world around you. In Arduino Workshop, you'll learn how these add-ons work and how to integrate them into your own projects. You'll start off with an overview of the Arduino system but quickly move on to coverage of various electronic components and concepts. Hands-on projects throughout the book reinforce what

you've learned and show you how to apply that knowledge. As your understanding grows, the projects increase in complexity and sophistication. Among the book's 65 projects are useful devices like: - A digital thermometer that charts temperature changes on an LCD -A GPS logger that records data from your travels, which can be displayed on Google Maps - A handy tester that lets you check the voltage of any single-cell battery - A keypad-controlled lock that

requires a secret code to open You'll also learn to build Arduino toys and games like: - An electronic version of the classic six-sided die - A binary quiz game that challenges your number conversion skills - A motorized remote control tank with collision detection to keep it from crashing Arduino Workshop will teach you the tricks and design principles of a master craftsman. Whatever your skill level, you'll have fun as you learn to harness the power of the Arduino

for your own DIY projects. Uses the Arduino Uno board  
Arduino Sensors for Everyone Author House  
 Rather than yet another project-based workbook, Arduino: A Technical Reference is a reference and handbook that thoroughly describes the electrical and performance aspects of an Arduino board and its software. This book brings together in one place all the information you need to get something done with Arduino. It will save you from endless web

searches and digging through translations of datasheets or notes in project-based texts to find the information that corresponds to your own particular setup and question. Reference features include pinout diagrams, a discussion of the AVR microcontrollers used with Arduino boards, a look under the hood at the firmware and run-time libraries that make the Arduino unique, and extensive coverage of the various shields and add-on sensors that can be used with an Arduino. One

chapter is devoted to creating a new shield from scratch. The book wraps up with detailed descriptions of three different projects: a programmable signal generator, a "smart" thermostat, and a programmable launch sequencer for model rockets. Each project highlights one or more topics that can be applied to other applications.  
C Programming for Arduino Apress  
 Another day without Test-Driven Development means more time wasted



chasing bugs and watching your code deteriorate. You thought TDD was for someone else, but it's not! It's for you, the embedded C programmer. TDD helps you prevent defects and build software with a long useful life. This is the first book to teach the hows and whys of TDD for C programmers. TDD is a modern programming practice C developers need to know. It's a different way to program--unit tests are written in a tight feedback loop with the production code,

assuring your code does what you think. You get valuable feedback every few minutes. You find mistakes before they become bugs. You get early warning of design problems. You get immediate notification of side effect defects. You get to spend more time adding valuable features to your product. James is one of the few experts in applying TDD to embedded C. With his 1.5 decades of training, coaching, and practicing TDD in C, C++, Java, and C# he will lead

you from being a novice in TDD to using the techniques that few have mastered. This book is full of code written for embedded C programmers. You don't just see the end product, you see code and tests evolve. James leads you through the thought process and decisions made each step of the way. You'll learn techniques for test-driving code right next to the hardware, and you'll learn design principles and how to apply them to C to keep your code clean and

flexible. To run the examples in this book, you will need a C/C++ development environment on your machine, and the GNU GCC tool chain or Microsoft Visual Studio for C++ (some project conversion may be needed).

**Arduino Cookbook** No Starch Press

Since its publication in 1947, great musicians and composers of all genres, from Arnold Schoenberg and Virgil Thomson to John Coltrane and Freddie Hubbard, have sworn by this legendary volume

and its comprehensive vocabulary of melodic patterns for composition and improvisation. Think about this book as a melodic reference manual or plot wheel. Looking for new material to add to your playing instruction, improvisations, or composition? This book has more than you'll ever be able to use. Many serious musicians have a copy of this lying around somewhere.

Exploring Arduino McGraw Hill Professional

This new edition has been fully revised and updated

to include extensive information on the ARM Cortex-M4 processor, providing a complete up-to-date guide to both Cortex-M3 and Cortex-M4 processors, and which enables migration from various processor architectures to the exciting world of the Cortex-M3 and M4. This book presents the background of the ARM architecture and outlines the features of the processors such as the instruction set, interrupt-handling and also demonstrates how to

program and utilize the advanced features available such as the Memory Protection Unit (MPU). Chapters on getting started with IAR, Keil, gcc and CooCox ColIDE tools help beginners develop program codes. Coverage also includes the important areas of software development such as using the low power features, handling information input/output, mixed language projects with assembly and C, and other advanced topics. Two new chapters on DSP

features and CMSIS-DSP software libraries, covering DSP fundamentals and how to write DSP software for the Cortex-M4 processor, including examples of using the CMSIS-DSP library, as well as useful information about the DSP capability of the Cortex-M4 processor A new chapter on the Cortex-M4 floating point unit and how to use it A new chapter on using embedded OS (based on CMSIS-RTOS), as well as details of processor features to support OS

operations Various debugging techniques as well as a troubleshooting guide in the appendix Topics on software porting from other architectures A full range of easy-to-understand examples, diagrams and quick reference appendices *Arduino: A Technical Reference* Apress Presents an introduction to the open-source electronics prototyping platform. *Programming Arduino Next Steps: Going Further with Sketches* Morgan & Claypool Publishers

This book will show you how to use your Arduino to control a variety of different robots, while providing step-by-step instructions on the entire robot building process. You'll learn Arduino basics as well as the characteristics of different types of motors used in robotics. You also discover controller methods and failsafe methods, and learn how to apply them to your project. The book starts with basic robots and moves into more complex projects, including a GPS-

enabled robot, a robotic lawn mower, a fighting bot, and even a DIY Segway-clone. Introduction to the Arduino and other components needed for robotics Learn how to build motor controllers Build bots from simple line-following and bump-sensor bots to more complex robots that can mow your lawn, do battle, or even take you for a ride Please note: the print version of this title is black & white; the eBook is full color.

**Arduino for Kids** O'Reilly

Media

Guided by an expert craftsman with over 30 years of experience, you'll build 70 awesome Arduino projects and emerge a true Arduinian ready to invent your own complex creations. For Arduino programmers who've mastered the basics, this book is the next step toward becoming an expert Arduinian. You'll build 70 complex and practical projects with this versatile microcontroller platform and gain advanced skills to design reliable, professional,

user-friendly creations. You'll remote-control your Arduino via Bluetooth and instant messaging, improve the accuracy of clock projects with internet time servers, and automatically turn your Arduino off when it completes a task. You'll safely control AC mains power and higher currents and conserve battery with low-power and sleep modes. You'll also use Charlieplexing to control LED matrix displays, keep your Arduino running with a watchdog timer, communicate over longer

wired distances with the RS232 and RS485 buses, and much more. Along the way, you'll build fun and useful devices like:

- A camera-enabled circuit to stream videos
- An MP3 player to listen to audio of your choice
- A CAN bus circuit to gather speed and engine data from your car
- A web server to display data captured with an ESP32 board
- A PS/2 keyboard to improve your user interfaces and easily enter and display data

Guided by an Arduino master, you'll harness dozens of sensors,

motors, displays, and techniques to bring your own expert inventions to life. Requirements: Arduino Uno and other Arduino-compatible microcontrollers and USBasp programmers. Some projects may require other inexpensive parts.

*Python Programming for Arduino* "O'Reilly Media, Inc."

Summary Arduino in Action is a hands-on guide to prototyping and building electronics using the Arduino platform. Suitable for both

beginners and advanced users, this easy-to-follow book begins with the basics and then systematically guides you through projects ranging from your first blinking LED through connecting Arduino to devices like game controllers or your iPhone. About the Technology Arduino is an open source do-it-yourself electronics platform that supports a mind-boggling collection of sensors and actuators you can use to build anything you can imagine. Even if you've never attempted a

hardware project, this easy-to-follow book will guide you from your first blinking LED through connecting Arduino to your iPhone. About this Book Arduino in Action is a hands-on guide to prototyping and building DIY electronics. You'll start with the basics—unpacking your board and using a simple program to make something happen. Then, you'll attempt progressively more complex projects as you connect Arduino to motors, LCD displays, Wi-

Fi, GPS, and Bluetooth. You'll explore input/output sensors, including ultrasound, infrared, and light, and then use them for tasks like robotic obstacle avoidance. Arduino programs look a lot like C or C++, so some programming skill is helpful. What's Inside Getting started with Arduino—no experience required! Writing programs for Arduino Sensing and responding to events Robots, flying vehicles, Twitter machines, LCD displays, and more! Purchase of the

print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Authors Martin Evans is a professional developer, a lifelong electronics enthusiast, and the creator of an Arduino-based underwater ROV. Joshua Noble is an author and creative

technologist who works with smart spaces. Jordan Hochenbaum uses Arduino to explore musical expression and creative interaction. Table of Contents Part 1 Getting started Chapter 1 Hello Arduino Chapter 2 Digital input and output Chapter 3 Simple projects: input and output Part 2 Putting Arduino to work Chapter 4

Extending Arduino Chapter 5 Arduino in motion Chapter 6 Object detection Chapter 7 LCD displays Chapter 8 Communications Chapter 9 Game on Chapter 10 Integrating the Arduino with iOS Chapter 11 Making wearables Chapter 12 Adding shields Chapter 13 Software integration

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