

computation and data into their practices in different perspectives; and those who already know how to program, seeking creativity and inspiration in the context of computation and data.

Processing - Ira Greenberg 2013-05-13

Processing: Creative Coding and Generative Art in Processing 2 is a fun and creative approach to learning programming. Using the easy to learn Processing programming language, you will quickly learn how to draw with code, and from there move to animating in 2D and 3D. These basics will then open up a whole world of graphics and computer entertainment. If you've been curious about coding, but the thought of it also makes you nervous, this book is for you; if you consider yourself a creative person, maybe worried programming is too non-creative, this book is also for you; if you want to learn about the latest Processing 2.0 language release and also start making beautiful code art, this book is also definitely for you. You will learn how to develop interactive simulations, create beautiful visualizations, and even code image-manipulation applications. All this is taught using hands-on creative coding projects. Processing 2.0 is the latest release of the open-source Processing language, and includes exciting new features, such as OpenGL 2 support for enhanced 3D graphics performance. Processing: Creative Coding and Generative Art in Processing 2 is designed for independent learning and also as a primary text for an introductory computing class. Based on research funded by the National Science Foundation, this book brings together some of the most engaging and successful approaches from the digital arts and computer science classrooms. Teaches you how to program using a fun and creative approach. Covers the latest release of the Processing 2.0 language. Presents a research based approach to learning computing.

Getting Started with Processing.py - Allison Parrish 2016-05-11

Processing opened up the world of programming to artists, designers, educators, and beginners. The Processing.py Python implementation of Processing reinterprets it for today's web. This short book gently introduces the core concepts of computer programming and working with Processing. Written by the co-founders of the Processing project, Reas and Fry, along with co-author Allison Parrish, *Getting Started with Processing.py* is your fast track to using Python's Processing mode.

Processing for Android - Andrés Colubri 2017-11-02

Learn how to use the Processing programming language and environment to create Android applications with ease. This book covers the basics of the Processing language, allowing users to effectively program interactive graphics in 2D and 3D. It also details the application of these techniques to different types of Android devices (smartphones, tablets, wearables and smartwatches). *Processing for Android* walks you through the steps of taking an initial idea to a final app. With this book, you will be able to write engaging apps with interactive visuals driven by motion and location information obtained from the device's sensors; including health data from the wearer, like step count and heart rate. An advantage of Processing for Android over more complex programming environments is the ability for users to focus on the interactions and visual output of their code rather than in the implementation details of the Android platform. This book goes through a comprehensive series of hand-on projects, ranging from simple sketches to more complex projects involving sensors and integration with larger apps. It also covers important aspects such as exporting your Processing projects as signed apps are ready to upload to the Google Play store and be share with the world! What You'll Learn Write apps and live wallpapers for smartphones and tablets Design and implement interactive watch faces Create Virtual Reality experiences for Cardboard devices Integrate Processing sketches into larger apps and Android Studio Export projects as completed apps ready to distribute through Google Play Store Who This Book Is For Artists, designers, students, researchers, and hobbyists who are not necessarily Android experts, but are looking to write mobile apps that make creative use of interactive graphics, sensor data, and virtual reality.

10 PRINT CHR\$(205.5+RND(1)); : GOTO 10 - Nick Montfort 2014-08-29

A single line of code offers a way to understand the cultural context of computing. This book takes a single line of code—the extremely concise BASIC program for the Commodore 64 inscribed in the title—and uses it as a lens through which to consider the phenomenon of creative computing and the way computer programs exist in culture. The authors of this collaboratively written book treat code not as merely functional but as a text—in the case of *10 PRINT*, a text that appeared in many different printed sources—that yields a story about its making, its purpose, its assumptions, and more. They consider randomness and regularity in computing and art, the maze in culture, the popular BASIC

programming language, and the highly influential Commodore 64 computer.

Learning Processing - Daniel Shiffman 2015-09-09

Learning Processing, Second Edition, is a friendly start-up guide to Processing, a free, open-source alternative to expensive software and daunting programming languages. Requiring no previous experience, this book is for the true programming beginner. It teaches the basic building blocks of programming needed to create cutting-edge graphics applications including interactive art, live video processing, and data visualization. Step-by-step examples, thorough explanations, hands-on exercises, and sample code, supports your learning curve. A unique lab-style manual, the book gives graphic and web designers, artists, and illustrators of all stripes a jumpstart on working with the Processing programming environment by providing instruction on the basic principles of the language, followed by careful explanations of select advanced techniques. The book has been developed with a supportive learning experience at its core. From algorithms and data mining to rendering and debugging, it teaches object-oriented programming from the ground up within the fascinating context of interactive visual media. This book is ideal for graphic designers and visual artists without programming background who want to learn programming. It will also appeal to students taking college and graduate courses in interactive media or visual computing, and for self-study. A friendly start-up guide to Processing, a free, open-source alternative to expensive software and daunting programming languages No previous experience required—this book is for the true programming beginner! Step-by-step examples, thorough explanations, hands-on exercises, and sample code supports your learning curve

Absolute Java - Walter J. Savitch 2016

For courses in computer programming and engineering. This package includes MyProgrammingLab(tm) Beginner to Intermediate Programming in Java This book is designed to serve as a textbook and reference for programming in the Java language. Although it does include programming techniques, it is organized around the features of the Java language rather than any particular curriculum of programming techniques. The main audience is undergraduate students who have not had extensive programming experience with the Java language. The introductory chapters are written at a level that is accessible to beginners, while the boxed sections of those chapters serve to quickly introduce more experienced programmers to basic Java syntax. Later chapters are still designed to be accessible, but are written at a level suitable for students who have progressed to these more advanced topics. This package includes MyProgrammingLab, an online homework, tutorial, and assessment program designed to work with this text to engage students and improve results. Within its structured environment, students practice what they learn, test their understanding, and pursue a personalized study plan that helps them better absorb course material and understand difficult concepts. MyProgrammingLab should only be purchased when required by an instructor. Please be sure you have the correct ISBN and Course ID. Instructors, contact your Pearson representative for more information.

Algorithms for Visual Design Using the Processing Language -

Kostas Terzidis 2009-04-08

As the first book to share the necessary algorithms for creating code to experiment with design problems in the processing language, this book offers a series of generic procedures that can function as building blocks and encourages you to then use those building blocks to experiment, explore, and channel your thoughts, ideas, and principles into potential solutions. The book covers such topics as structured shapes, solid geometry, networking and databases, physical computing, image processing, graphic user interfaces, and more.

Getting Started With Processing - Casey Reas 2016

Getting Started with p5.js - Lauren McCarthy 2015-10-12

With p5.js, you can think of your entire Web browser as your canvas for sketching with code! Learn programming the fun way--by sketching with interactive computer graphics! *Getting Started with p5.js* contains techniques that can be applied to creating games, animations, and interfaces. p5.js is a new interpretation of Processing written in JavaScript that makes it easy to interact with HTML5 objects, including text, input, video, webcam, and sound. Like its older sibling Processing, p5.js makes coding accessible for artists, designers, educators, and beginners. Written by the lead p5.js developer and the founders of Processing, this book provides an introduction to the creative possibilities of today's Web, using JavaScript and HTML. With *Getting*

Started with p5.js, you'll: Quickly learn programming basics, from variables to objects Understand the fundamentals of computer graphics Create interactive graphics with easy-to-follow projects Learn to apply data visualization techniques Capture and manipulate webcam audio and video feeds in the browser

Arduino For Dummies - John Nussey 2018-08-10

Bring your ideas to life with the latest Arduino hardware and software Arduino is an affordable and readily available hardware development platform based around an open source, programmable circuit board. You can combine this programmable chip with a variety of sensors and actuators to sense your environment around you and control lights, motors, and sound. This flexible and easy-to-use combination of hardware and software can be used to create interactive robots, product prototypes and electronic artwork, whether you're an artist, designer or tinkerer. Arduino For Dummies is a great place to start if you want to find out about Arduino and make the most of its incredible capabilities. It helps you become familiar with Arduino and what it involves, and offers inspiration for completing new and exciting projects. • Covers the latest software and hardware currently on the market • Includes updated examples and circuit board diagrams in addition to new resource chapters • Offers simple examples to teach fundamentals needed to move onto more advanced topics • Helps you grasp what's possible with this fantastic little board Whether you're a teacher, student, programmer, hobbyist, hacker, engineer, designer, or scientist, get ready to learn the latest this new technology has to offer!

Getting Started with P5.js - Lauren McCarthy 2015-05-25

With p5.js, you can think of your entire Web browser as your canvas for sketching with code! Learn programming the fun way--by sketching with interactive computer graphics! Getting Started with p5.js contains techniques that can be applied to creating games, animations, and interfaces. p5.js is a new interpretation of Processing written in JavaScript that makes it easy to interact with HTML5 objects, including text, input, video, webcam, and sound. Like its older sibling Processing, p5.js makes coding accessible for artists, designers, educators, and beginners. Written by the lead p5.js developer and the founders of Processing, this book provides an introduction to the creative possibilities of today's Web, using JavaScript and HTML. With Getting Started with p5.js, you'll: Quickly learn programming basics, from variables to objects Understand the fundamentals of computer graphics Create interactive graphics with easy-to-follow projects Learn to apply data visualization techniques Capture and manipulate webcam audio and video feeds in the browser

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Make: Getting Started with Processing - Casey Reas 2010-06-14

Learn computer programming the easy way with Processing, a simple language that lets you use code to create drawings, animation, and interactive graphics. Programming courses usually start with theory, but this book lets you jump right into creative and fun projects. It's ideal for anyone who wants to learn basic programming, and serves as a simple introduction to graphics for people with some programming skills. Written by the founders of Processing, this book takes you through the learning process one step at a time to help you grasp core programming concepts. You'll learn how to sketch with code -- creating a program with one a line of code, observing the result, and then adding to it. Join the thousands of hobbyists, students, and professionals who have discovered this free and educational community platform. Quickly learn programming basics, from variables to objects Understand the fundamentals of computer graphics Get acquainted with the Processing software development environment Create interactive graphics with easy-to-follow projects Use the Arduino open source prototyping platform to control your Processing graphics

Design by Numbers - John Maeda 2001-08-24

A pioneering graphic designer shows how to use the computer as an artistic medium in its own right. Most art and technology projects pair artists with engineers or scientists: the artist has the conception, and the technical person provides the know-how. John Maeda is an artist and a computer scientist, and he views the computer not as a substitute for brush and paint but as an artistic medium in its own right. Design By

Numbers is a reader-friendly tutorial on both the philosophy and nuts-and-bolts techniques of programming for artists. Practicing what he preaches, Maeda composed Design By Numbers using a computational process he developed specifically for the book. He introduces a programming language and development environment, available on the Web, which can be freely downloaded or run directly within any JAVA-enabled Web browser. Appropriately, the new language is called DBN (for "design by numbers"). Designed for "visual" people—artists, designers, anyone who likes to pick up a pencil and doodle—DBN has very few commands and consists of elements resembling those of many other languages, such as LISP, LOGO, C/JAVA, and BASIC. Throughout the book, Maeda emphasizes the importance—and delights—of understanding the motivation behind computer programming, as well as the many wonders that emerge from well-written programs. Sympathetic to the "mathematically challenged," he places minimal emphasis on mathematics in the first half of the book. Because computation is inherently mathematical, the book's second half uses intermediate mathematical concepts that generally do not go beyond high-school algebra. The reader who masters the skills so clearly set out by Maeda will be ready to exploit the true character of digital media design.

Getting Started with Processing - Casey Reas 2010-06-21

Learn computer programming the easy way with Processing, a simple language that lets you use code to create drawings, animation, and interactive graphics. Programming courses usually start with theory, but this book lets you jump right into creative and fun projects. It's ideal for anyone who wants to learn basic programming, and serves as a simple introduction to graphics for people with some programming skills. Written by the founders of Processing, this book takes you through the learning process one step at a time to help you grasp core programming concepts. You'll learn how to sketch with code -- creating a program with one a line of code, observing the result, and then adding to it. Join the thousands of hobbyists, students, and professionals who have discovered this free and educational community platform. Quickly learn programming basics, from variables to objects Understand the fundamentals of computer graphics Get acquainted with the Processing software development environment Create interactive graphics with easy-to-follow projects Use the Arduino open source prototyping platform to control your Processing graphics

Arduino Cookbook - Michael Margolis 2012

Presents an introduction to the open-source electronics prototyping platform.

Processing, second edition - Casey Reas 2014-12-19

The new edition of an introduction to computer programming within the context of the visual arts, using the open-source programming language Processing; thoroughly updated throughout. The visual arts are rapidly changing as media moves into the web, mobile devices, and architecture. When designers and artists learn the basics of writing software, they develop a new form of literacy that enables them to create new media for the present, and to imagine future media that are beyond the capacities of current software tools. This book introduces this new literacy by teaching computer programming within the context of the visual arts. It offers a comprehensive reference and text for Processing (www.processing.org), an open-source programming language that can be used by students, artists, designers, architects, researchers, and anyone who wants to program images, animation, and interactivity. Written by Processing's cofounders, the book offers a definitive reference for students and professionals. Tutorial chapters make up the bulk of the book; advanced professional projects from such domains as animation, performance, and installation are discussed in interviews with their creators. This second edition has been thoroughly updated. It is the first book to offer in-depth coverage of Processing 2.0 and 3.0, and all examples have been updated for the new syntax. Every chapter has been revised, and new chapters introduce new ways to work with data and geometry. New "synthesis" chapters offer discussion and worked examples of such topics as sketching with code, modularity, and algorithms. New interviews have been added that cover a wider range of projects. "Extension" chapters are now offered online so they can be updated to keep pace with technological developments in such fields as computer vision and electronics. Interviews SUE.C, Larry Cuba, Mark Hansen, Lynn Hershman Leeson, Jürg Lehni, LettError, Golan Levin and Zachary Lieberman, Benjamin Maus, Manfred Mohr, Ash Nehru, Josh On, Bob Sabiston, Jennifer Steinkamp, Jared Tarbell, Steph Thirion, Robert Winter

Aesthetic Programming - Winnie Soon 2020-12-31

The book explores the technical as well as cultural imaginaries of

programming from its insides, demonstrating the reflexive practice of aesthetic programming, to understand and question existing technological objects and paradigms.

Visualizing Data - Ben Fry 2008

Provides information on the methods of visualizing data on the Web, along with example projects and code.

Getting Started with Arduino - Massimo Banzi 2011-09-13

Presents an introduction to the open-source electronics prototyping platform.

Learn JavaScript with p5.js - Engin Arslan 2018-03-07

Learn coding from scratch in a highly engaging and visual manner using the vastly popular JavaScript with the programming library p5.js. The skills you will acquire from this book are highly transferable to a myriad of industries and can be used towards building web applications, programmable robots, or generative art. You'll gain the proper context so that you can build a strong foundation for programming. This book won't hinder your momentum with irrelevant technical or theoretical points. The aim is to build a strong, but not overly excessive knowledge to get you up and running with coding. If you want to program creative visuals and bring that skill set to a field of your your choice, then Learn JavaScript with p5.js is the book for you. What You'll Learn Code from scratch and create computer graphics with JavaScript and the p5.js library Gain the necessary skills to move into your own creative projects Create graphics and interactive experiences using Processing Program using JavaScript and p5.js and secondarily in creating visuals Who This Book is For Artists or a visual designers. Also, those who want to learn the fundamentals of programming through visual examples.

Bioinformatics Programming Using Python - Mitchell L Model 2009-12-08

Powerful, flexible, and easy to use, Python is an ideal language for building software tools and applications for life science research and development. This unique book shows you how to program with Python, using code examples taken directly from bioinformatics. In a short time, you'll be using sophisticated techniques and Python modules that are particularly effective for bioinformatics programming. Bioinformatics Programming Using Python is perfect for anyone involved with bioinformatics -- researchers, support staff, students, and software developers interested in writing bioinformatics applications. You'll find it useful whether you already use Python, write code in another language, or have no programming experience at all. It's an excellent self-instruction tool, as well as a handy reference when facing the challenges of real-life programming tasks. Become familiar with Python's fundamentals, including ways to develop simple applications Learn how to use Python modules for pattern matching, structured text processing, online data retrieval, and database access Discover generalized patterns that cover a large proportion of how Python code is used in bioinformatics Learn how to apply the principles and techniques of object-oriented programming Benefit from the "tips and traps" section in each chapter

Chemistry Concepts Coloring Book - Lauren McCarthy 2018-10-04

This chemistry coloring book offers a way to learn or reinforce some chemistry concepts in a creative way. Written and illustrated by an over 20-year (and counting!) high school chemistry teacher looking to make chemistry more understandable and fun for kids of all ages. Each coloring page is accompanied by a description and coloring instructions to make the chemistry concept easier to comprehend. An answer key is provided in the back of the book.

Pro Processing for Images and Computer Vision with OpenCV - Bryan WC Chung 2017-08-26

Apply the Processing language to tasks involved in computer vision-- tasks such as edge and corner detection, recognition of motion between frames in a video, recognition of objects, matching of feature points and shapes in different frames for tracking purposes, and more. You will manipulate images through creative effects, geometric transformation, blending of multiple images, and so forth. Examples are provided. Pro Processing for Images and Computer Vision with OpenCV is a step-by-step training tool that guides you through a series of worked examples in linear order. Each chapter begins with a basic demonstration, including the code to recreate it on your own system. Then comes a creative challenge by which to engage and develop mastery of the chapter's topic. The book also includes hints and tips relating to visual arts, interaction design, and industrial best practices. This book is intended for any developer of artistic and otherwise visual applications, such as in augmented reality and digital effects, with a need to manipulate images, and to recognize and manipulate objects within those images. The book

is specifically targeted at those making use of the Processing language that is common in artistic fields, and to Java programmers because of Processing's easy integration into the Java programming environment. What You'll Learn Make use of OpenCV, the open source library for computer vision in the Processing environment Capture live video streams and examine them frame-by-frame for objects in motion Recognize shapes and objects through techniques of detecting lines, edges, corners, and more Transform images by scaling, translating, rotating, and additionally through various distortion effects Apply techniques such as background subtraction to isolate motion of objects in live video streams Detect and track human faces and other objects by matching feature points in different images or video frames Who This Book Is For Media artists, designers, and creative coders **Programming Interactivity** - Joshua Noble 2009-07-21 Make cool stuff. If you're a designer or artist without a lot of programming experience, this book will teach you to work with 2D and 3D graphics, sound, physical interaction, and electronic circuitry to create all sorts of interesting and compelling experiences -- online and off. Programming Interactivity explains programming and electrical engineering basics, and introduces three freely available tools created specifically for artists and designers: Processing, a Java-based programming language and environment for building projects on the desktop, Web, or mobile phones Arduino, a system that integrates a microcomputer prototyping board, IDE, and programming language for creating your own hardware and controls OpenFrameworks, a coding framework simplified for designers and artists, using the powerful C++ programming language BTW, you don't have to wait until you finish the book to actually make something. You'll get working code samples you can use right away, along with the background and technical information you need to design, program, build, and troubleshoot your own projects. The cutting edge design techniques and discussions with leading artists and designers will give you the tools and inspiration to let your imagination take flight.

Getting Started with Processing - Casey Reas 2015-09-09

Processing opened up the world of programming to artists, designers, educators, and beginners. This short book gently introduces the core concepts of computer programming and working with Processing. Written by the co-founders of the Processing project, Reas and Fry, Getting Started with Processing shows you how easy it is to make software and systems with interactive graphics. If you're an artist looking to develop interactive graphics programs or a programmer on your way to becoming an artist, this book will take you where you want to go. Updated with new material on graphics manipulation, data, and for the latest version of Processing.

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Exploratory Programming for the Arts and Humanities - Nick Montfort 2016-04-08

A book for anyone who wants to learn programming to explore and create, with exercises and projects to help the reader learn by doing. This book introduces programming to readers with a background in the arts and humanities; there are no prerequisites, and no knowledge of computation is assumed. In it, Nick Montfort reveals programming to be not merely a technical exercise within given constraints but a tool for sketching, brainstorming, and inquiring about important topics. He emphasizes programming's exploratory potential—its facility to create new kinds of artworks and to probe data for new ideas. The book is designed to be read alongside the computer, allowing readers to program while making their way through the chapters. It offers practical

exercises in writing and modifying code, beginning on a small scale and increasing in substance. In some cases, a specification is given for a program, but the core activities are a series of “free projects,” intentionally underspecified exercises that leave room for readers to determine their own direction and write different sorts of programs. Throughout the book, Montfort also considers how computation and programming are culturally situated—how programming relates to the methods and questions of the arts and humanities. The book uses Python and Processing, both of which are free software, as the primary programming languages.

MAKE - LAUREN MC. CARTHY 2016

Being Material - Marie-Pier Boucher 2019-10-22

Explorations of the many ways of being material in the digital age. In his oracular 1995 book *Being Digital*, Nicholas Negroponte predicted that social relations, media, and commerce would move from the realm of “atoms to bits”—that human affairs would be increasingly untethered from the material world. And yet in 2019, an age dominated by the digital, we have not quite left the material world behind. In *Being Material*, artists and technologists explore the relationship of the digital to the material, demonstrating that processes that seem wholly immaterial function within material constraints. Digital technologies themselves, they remind us, are material things—constituted by atoms of gold, silver, silicon, copper, tin, tungsten, and more. The contributors explore five modes of being material: programmable, wearable, livable, invisible, and audible. Their contributions take the form of reports, manifestos, philosophical essays, and artist portfolios, among other configurations. The book's cover merges the possibilities of paper with those of the digital, featuring a bookmark-like card that, when “seen” by

a smartphone, generates graphic arrangements that unlock films, music, and other dynamic content on the book's website. At once artist's book, digitally activated object, and collection of scholarship, this book both demonstrates and chronicles the many ways of being material.

Contributors Christina Agapakis, Azra Akšamija, Sandy Alexandre, Dewa Alit, George Barbastathis, Maya Beiser, Marie-Pier Boucher, Benjamin H. Bratton, Hussein Chalayan, Jim Cybulski, Tal Danino, Deborah G. Douglas, Arnold Dreyblatt, M. Amah Edoh, Michelle Tolini Finamore, Team Foldscope and Global Foldscope community, Ben Fry, Victor Gama, Stefan Helmreich, Hyphen-Labs, Leila Kinney, Rebecca Konte, Winona LaDuke, Brendan Landis, Grace Leslie, Bill Maurer, Lucy McRae, Tom Özden-Schilling, Trevor Paglen, Lisa Parks, Nadya Peek, Claire Pentecost, Manu Prakash, Casey Reas, Paweł Romańczuk, Natasha D. Schüll, Nick Shapiro, Skylar Tibbits, Rebecca Uchill, Evan Ziporyn Book Design: E Roon Kang Electronics, interactions, and product designer: Marcelo Coelho

Generative Design - Benedikt Gross 2018-11-13

Generative design, once known only to insiders as a revolutionary method of creating artwork, models, and animations with programmed algorithms, has in recent years become a popular tool for designers. By using simple languages such as JavaScript in p5.js, artists and makers can create everything from interactive typography and textiles to 3D-printed furniture to complex and elegant infographics. This updated volume gives a jump-start on coding strategies, with step-by-step tutorials for creating visual experiments that explore the possibilities of color, form, typography, and images. *Generative Design* includes a gallery of all-new artwork from a range of international designers—fine art projects as well as commercial ones for Nike, Monotype, Dolby Laboratories, the musician Bjork, and others.