Getting Started With Processing A Hands On Introduction To Making Interactive Graphics

Processing Getting Started with P5.jsRe for Data ScienceGetting Started: Journey to Modernization with IBM ZPython for EverybodyProgramming the Internet of ThingsGetting Started with Python on ArduinoGetting Started with ProcessingGetting Started with Python for EveryoneGetting Started with ProcessingGetting Started with Python for Everyone

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.

Deep learning is often viewed as the exclusive domain of math PhDs and big tech companies. But as this hands-on guide demonstrates, programmers comfortable with Python can achieve impressive results in deep learning with little math background, small amounts of data, and minimal code. How? With fastai, the first library to provide a consistent interface for frequently used deep learning techniques. Authors Jeremy Howard and Sylvain Gugger, the creators of fastai, show you how to train a model on a wide range of tasks using fastai and PyTorch. You’ll also dive progressively further into deep learning theory to gain a complete understanding of the algorithms behind the scenes.

Train models in computer vision, natural language processing, tabular data, and collaborative filtering, Learn the latest deep learning techniques that matter most in practice: Improve accuracy, speed, and reliability by understanding how deep learning models work. Discover how to turn your models into web applications. Implement deep learning algorithms from scratch. Consider the ethical implications of your work. Gain insight from the foreword by PyTorch co-founder, Soumith Chintala.

What can you do with the Raspberry Pi, a $35 computer the size of a credit card? All sorts of things! If you’re learning how to program, or looking to build new electronic projects, this hands-on guide will show you just how valuable this flexible little platform can be. This book takes you step-by-step through many fun and educational possibilities. Take advantage of several preloaded programming languages. Use the Raspberry Pi with Arduino. Create Internet-connected projects. Play with multimedia. With Raspberry Pi, you can do all of this and more. Get acquainted with hardware features on the Pi’s board. Learn enough Linux to move around the operating system. Pick up the basics of Python and Scratch—and start programming! Draw graphics, play sounds, and handle mouse events with the Pygame framework. Use the Pi’s input and output pins to do some hardware hacking. Discover how Arduino and the Raspberry Pi complement each other. Integrate USB webcams and other peripherals into your projects. Create your own Pi-based web server with Python.

Create mobile apps for Android phones and tablets using Processing, the free graphics-savvy language and development environment.

This book is a practical guide with examples and clear steps to explain terrain modeling with Grome. If you’re a developer or artist looking for a guide to help you walk through GROME 3.1, then this book is for you. This book will help you from the first step to exporting a terrain as a workable art asset in a game engine.

Computational Genomics with R provides a starting point for beginners in genomic data analysis and also guides more advanced practitioners to sophisticated data analysis techniques in genomics. The book covers topics from R programming, to machine learning and statistics, to the latest genomic data analysis techniques. The text provides accessible information and explanations, always with the genomics context in the background. This also contains practical and well-documented R and R scripts, allowing you to explore the techniques described. As the field of computational genomics is interdisciplinary, it requires different starting points for people with different backgrounds. For example, a biologist might skip sections on basic genome biology and start with R programming, whereas a computer scientist might want to start with genome biology. After reading: You will have the basics of R and be able to dive right into specialized uses of R for computational genomics such as using Bioconductor packages. You will be familiar with statistics, supervised and unsupervised learning techniques that are important in data modeling, and exploratory analysis of high-dimensional data. You will understand genomic intervals and operations on them that are used for tasks such as aligned read counting and genomic feature annotation. You will know the basics of processing and quality checking high-throughput sequencing data. You will be able to do sequence analysis, such as calculating GC content for parts of a genome or finding transcription factor binding sites. You will know about visualization techniques used in genomics, such as heatmaps, meta-gene plots, and genomic track visualization. You will be familiar with analysis of different high-throughput sequencing data sets, such as RNA-seq, ChIP-seq, and BS-seq. You will know basic techniques for integrating and interpreting multi-omics datasets. Altuna Akalin is a group leader and head of the Bioinformatics and Omics Data Science Platform at the Max Delbrück Center, Berlin. He has been developing computational methods for analyzing and integrating large-scale genomics data sets since 2002. He has published an extensive body of work in this area. The framework for this book grew out of the yearly computational genomics courses he has been organizing and teaching since 2015.

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 one, this book will take you where you want to go. Updated with material on graphics interfaces, data, and for the latest version of Processing.

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 an introduction to the fundamental principles of the language, followed by a detailed exploration 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 working in the field. It will also appeal to students who want to learn programming while using Processing for art and design 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 Modernization of enterprise IT applications and infrastructure is key to the survival of organizations. It is no longer a matter of choice. The cost of missing out on business opportunities in an intensely competitive market can be enormous. To aid in their success, organizations are facing increased encouragement to embrace change. They are pushed to think of new and innovative ways to counter threats from competitors who are equally aggressive in adopting newer methods and technologies. The term modernization often varies in meaning based on perspective. This IBM Redbooks® publication focuses on the technological advancements that unlock computing environments that are hosted on IBM Z® to enable secure processing at the core of hybrid. This publication is intended for IT executives, IT managers, IT architects, System Programmers, and Application Developer professionals.

Python for Everybody is designed to introduce students to programming and software development through the lens of exploring data. You can think of the Python programming language as your tool to solve data problems that are beyond the capability of a spreadsheet. Python is an easy to use and easy to learn programming language that is freely available on Macintosh, Linux, or Windows. You can use it for the rest of your career without needing to purchase any software. This book uses the Python 3 language. The earlier Python 2 version of this book is titled "Python for Informatics: Exploring Information". There are free downloadable electronic copies of this book in various formats and supporting materials for the book at www.pythonlearn.com. The course materials are available to you under a Creative Commons license so you can adapt them to teach your own Python course.

Deep Learning with R introduces the world of deep learning using the powerful Keras library and its R language interface. The book builds your understanding of deep learning through intuitive explanations and practical examples. Continue your journey into the world of deep learning with Deep Learning with R in Motion, a practical, hands-on video course available exclusively at Manning.com (www.manning.com/livideo/deep-learning-with-r-in-motion). Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Machine learning has made remarkable progress in recent years. Deep-learning systems now enable previously impossible smart applications, revolutionizing image recognition and natural-language processing, and identifying complex patterns in data. The Keras deep-learning library provides data scientists and developers working in R a state-of-the-art toolset for tackling deep-learning tasks. About the Book Deep Learning with R introduces the world of deep learning using the powerful Keras library and its R language interface. Initially written for Python as Deep Learning with Python by Keras creator and Google AI researcher François Chollet and adapted for R by Rstudio founder J. J. Allaire, this book builds your understanding of deep learning concepts and practical implementation. You'll learn the skills with R-based applications in computer vision, natural-language processing, and generative models. What's Inside Deep learning from first principles Setting up your own deep-learning environment Image classification and generation Deep learning for text and sequences About the Reader You'll need intermediate R programming skills. No previous experience with machine learning or deep learning is assumed. About the Authors François Chollet is a deep-learning researcher at Google and the author of the Keras library. J. J. Allaire is the founder of Rstudio and the author of the R interfaces to TensorFlow and Keras. Table of Contents PART 1 - FUNDAMENTALS OF DEEP LEARNING What is deep learning? Before we begin: the mathematical building blocks of neural networks Getting started with neural networks Fundamentals of machine learning PART 2 - DEEP LEARNING IN PRACTICE Deep learning for computer vision Deep learning for text and sequences Advanced deep-learning best practices Generative deep learning Conclusions Learn computer programming the easy way with Processing, a simple language that lets you code to create drawings, animation, and interactive graphics. Programming courses usually start with theory, but this book lets you jump right into projects. Processing can be used to learn basic grammar for computer programming, as well as an introduction to graphics for people with some programming skills. Written by the founders of Processing, this book takes you through the learning process step one at a time to help you grasp core programming concepts. You'll learn how to sketch with code -- creating a program with one 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.
Getting Started With P5.js: A Hands On Introduction To Making Interactive Graphics

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

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, image, video, webcam, 3D 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 founder 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

Introduction to Data Science: Data Analysis and Prediction Algorithms with R introduces concepts and skills that can help you tackle real-world data analysis challenges. It covers concepts from probability, statistical inference, linear regression, data visualization, data wrangling, machine learning, and prediction, predictive algorithm building, file organization with UNIX/Linux shell, version control with Git and GitHub, and reproducible document preparation. This book is a textbook for a first course in data science. No previous knowledge of R is necessary, although some experience with programming may be helpful. The book is divided into six parts Real world visualizations, statistics with R, data wrangling, machine learning, and productivity tools. Each part has several chapters meant to be presented as one lecture. The author uses motivating case studies that realistically mimic a data scientist’s experience. He starts by asking specific questions and answers these through data analysis so concepts are learned as a means to answering the questions. Examples of the case studies included are: US murder rates by state, self-reported student heights, trends in world health and economics, the impact of vaccines on infectious diseases, financial crisis of 2007-2008, election forecasting, building a baseball (MLB) game simulator and visualizing processed game data, and movie recommendation systems. The statistical concepts used to answer the case study questions are only briefly introduced, so complementing with a probability and statistics textbook is highly recommended for in-depth understanding of these concepts. If you read and understand the chapters and complete the exercises, you will be prepared to learn the more advanced concepts and skills needed to become an expert.

Getting Started with Google BERT will help you become well-versed with the BERT model from scratch and learn how to create interesting NLP applications. You’ll understand several variants of BERT such as ALBERT, RoBERTa, DistilBERT, ELECTRA, VideoBERT, and many others in detail.

This book offers a highly accessible introduction to natural language processing, the field that supports a variety of language technologies, from predictive text and email filtering to automatic summarization and translation. With it, you’ll learn how to write Python programs that work with large collections of unstructured text. You’ll access richly annotated datasets using a comprehensive range of linguistic data structures, and you’ll understand the main algorithms for analyzing the content and structure of written communication. Packed with examples and exercises, Natural Language Processing with Python will help you: Extract information from unstructured text, either to guess the topic or identify “named entities” Analyze linguistic structure in text, including parsing and semantic analysis Access popular linguistic datastores such as WordNet and ConceptNet Integrate techniques drawing from fields as diverse as linguistics and artificial intelligence This book will help you gain practical skills in natural language processing using the Python programming language and the Natural Language Toolkit (NLTK) open source library. If you’re interested in developing web applications, analyzing multilingual news sources, or documenting endangered languages -- or if you’re simply curious to have a programmer’s perspective on how human language works -- you’ll find Natural Language Processing with Python both fascinating and immensely useful.

"This book introduces you to R, RStudio, and the tidyverse, a collection of R packages designed to work together to make data science fast, fluent, and fun. Suitable for readers with no previous programming experience."

Looks at the techniques of interactive design, covering such topics as 2D and 3D graphics, sound, computer vision, and geolocation.

The Raspberry Pi is a credit card-sized computer that plugs into your TV and a keyboard. It is a capable little computer which can be used in electronics projects, and for many of the things that your desktop PC does, like spreadsheets, word processing, browsing the internet, and playing games. It also plays high-definition video. This book takes you step-by-step through many fun and educational possibilities. Take advantage of several preloaded programming languages. Use the Raspberry Pi with Arduino. Create Internet-connected projects. Play with multimedia. With Raspberry Pi, you can do all of this and more.

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 APKs and building and deploying these to the Android device.

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.

Learn how to create gorgeous and expressive imagery with the Processing graphics language and environment. It’s easy with this practical, hands-on book. Processing is for artists, designers, visualization creators, hobbyists, or anyone else looking to create images, animation, and interactive pieces for art, education, science, or business. Process

Learn how to redesign NLP applications from scratch. KEY FEATURES • Get familiar with the basics of any Machine Learning or Deep Learning application. • Understand how does preprocessing work in NLP pipeline. • Use pre-trained FastText snippets to create NLP-based applications. Learn how to build a complex NLP application. Get familiar with the advanced embedding technique, Generative network, and Audio signal processing techniques. DESCRIPTION
Making Interactive Graphics

Natural language processing (NLP) is one of the areas where many Machine Learning and Deep Learning techniques are applied. This book covers wide areas, including the fundamentals of Machine Learning, Understanding and optimizing hyperparameters, Convolution Neural Networks (CNN), and Recurrent Neural Networks (RNN). This book not only covers basics of Natural Language Processing but also helps in deciphering the logic behind advanced concepts/architecture such as Batch Normalization, Post-Normalization, Transformers, Attention, and Bi-Directional. This book also covers recent advancements such as ELMo-BiLSTM, SkipThought, and Bert. This book also covers practical implementation with step by step explanation of deep learning techniques in Topic Modelling, Text Generation, Named Entity Recognition, Text Summarization, and Language Translation. In addition to this, very advanced and open to research topics such as Generative Adversarial Network and Speech Processing are also covered. WHAT YOU WILL LEARN • Learn how to leveraging GPU for Deep Learning • Learn how to execute using TensorFlow and PyTorch • Learn how to develop machine learning and deep learning applications. • Learn to use GANs in NLP • Learn how to process Speech data and implementing it in Speech applications WHO THIS BOOK IS FOR This book is a must-read to everyone who wishes to start the career with Machine learning and Deep Learning. This book is also for those who want to use GPU for developing Deep Learning applications. TABLE OF CONTENTS 1. Understanding the Basics of Neural Networks 2. Text Processing Techniques 3. Representing Language Mathematically 4. Using RNN for NLP 5. Applying CNN In NLP Tasks 6. Accelerating NLP with Advanced Embeddings 7. Applying Deep Learning to NLP tasks 8. Application of Complex Architectures in NLP 9. Understanding Generative Networks 10. Techniques of Speech Processing 11. The Road Ahead

If you want to build an enterprise-quality application that uses natural language text but aren’t sure where to begin or what tools to use, this practical guide will help get you started. Alex Thomas, principal data scientist at Wiscube, shows software engineers and data scientists how to build scalable natural language processing (NLP) applications using deep learning and the Apache Spark MLLib library. Through concrete examples, practical and theoretical explanations, and hundreds of practical exercises, you’ll quickly learn how to use machine learning and deep learning to create real-world NLP applications, including exciting new features, such as OpenGL 2 support for code image-manipulation applications. All this is taught using hands-on creative coding projects. Processing 2.0 is definitely for you. You will learn how to develop interactive simulations, create beautiful visualizations, and even learn about the latest Processing 2.0 language release and also start making beautiful code art, this book is also for you've been curious about coding, but the thought of it also makes you nervous, this book is for you; if you consider move to animating in 2D and 3D. These basics will then open up a whole world of graphics and computer entertainment. If you are a Java programmer who wants to learn about the fundamental tasks underlying natural language processing, this book will teach you everything from basic linguistics and writing systems to sentiment analysis and search engines. You’ll also explore special concerns for developing text-based applications, such as performance. In four sections, you’ll learn NLP basics and building blocks before diving into application and system building: Basics: Understand the fundamentals of natural language processing, NLP basics, and deep learning Building blocks; Learn techniques for building NLP applications—including tokenization, sentence segmentation, and named-entity recognition—and discover how and why they work Applications: Explore the design, development, and experimentation process for building your own NLP applications Building NLP systems: Consider options for productionizing and deploying NLP models, including which human languages to support

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, Math operations, and control flow. Once you’ve mastered these basics, you’ll be fully powered up to move on to more advanced programming concepts.

Summary Grokking Deep Learning teaches you to build deep learning neural networks from scratch! In his engaging style, seasoned deep learning expert Andrew Trask shows you how to harness the power of neural networks to solve any problem. You’ll learn how to write like Shakespeare: long short-term memory Deep learning on unseen data: introducing federated learning Where to go from here: a brief guide

If you are a Java programmer who wants to learn about the fundamental tasks underlying natural language processing, this book is for you. You will be able to identify and use NLP tasks for many common problems, and integrate them in your applications to solve more difficult problems. Readers should be familiar/experienced with Java software development.

Processing: Creative Coding and Generative Art in Processing 2 is a fun and creative approach to learning programming. Instead of Processing 2 being a linear lesson, you'll quickly learn how to draw with code, and then 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 Processing 2. You’ll start making beautiful code art, this book is 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.

Essential Natural Language Processing is a hands-on guide filled with everything you need to get started with NLP in a friendly, understandable tutorial. Full of Python code and hands-on projects, each chapter provides a concrete example with practical techniques that you can put into practice right away. By following the numerous Python-based examples and real-world case studies, you’ll apply NLP to search applications, extracting meaning from text, sentiment analysis, user profiling, and more. When you’re done, you’ll have a solid grounding in NLP that will serve as a foundation for further learning. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

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 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

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.

R is rapidly becoming the standard software for statistical analyses, graphical presentation of data, and programming in the social, biological, and physical sciences. This is an introductory course for biomedical scientists with little or no background in mathematics and physics to more advanced algorithms that enable sophisticated visual results. Readers will progress from building a basic physics engine to creating intelligent moving objects and complex systems, setting the foundation for further experiments in generative design. Subjects covered include forces, trigonometry, fractals, cellular automata, self-organization, and genetic algorithms. The book’s examples are written in Processing, an open-source language and development environment built on top of the Java programming language. On the book’s website (http: //www.natureofcode.com), the examples run in the browser via Processing’s JavaScript mode.

Learn To Easily Create Robotic, IoT, and Wearable Electronic Gadgets! Get up-and-running building cutting-edge Edison devices with help from this DIY guide. Programming the Intel Edison: Getting Started with Processing and Python lays out the Edison’s powerful features and teaches the basics of Internet-enabled embedded programming. Discover how to set up Edison devices, connect your PC or Mac, build Python applications, and use USB, WiFi, and Bluetooth connections. Start-to-finish example projects include a motor controller, home temperature system, robotic car, and wearable hospital alert system. The Edison connect Sparkfun, Break-out, and Arduino boards Program your Edison through the Arduino IDE Set up USB, GPIO, WiFi, and Bluetooth connections

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

Processing is a free, beginner-friendly programming language designed to help non-programmers create interactive art with code. The SparkFun Guide to Processing, the first in the SparkFun Electronics series, will show you how to craft digital artwork and even combine that artwork with hardware so that it reacts to the world around you. Start with the basics of programming and animation as you draw colorful shapes and make them bounce around the screen. Then move on to a series of hands-on, step-by-step projects that will show you how to: -Make detailed pixel art and scale it to epic proportions -Write a maze game and build a MaKey MaKey controller with fruit buttons -Play, record, and sample audio to create your own soundboard -Fetch weather data from the Web and build a custom weather dashboard -Create visualizations that change based on sound, light, and temperature readings With a little imagination and Processing as your paintbrush, you can start coding your own gallery of digital art in no time! Put on your artist’s hat, and begin your DIY journey by learning some basic programming and making your first masterpiece with The SparkFun Guide to Processing. The code in this book is compatible with Processing 2 and Processing 3.

Learn how to write, tune, and port SQL queries and other statements for a Big Data environment, using Impala—the massively parallel processing SQL query engine for Apache Hadoop. The best practices in this practical guide help you design database schemas that not only interoperate with other Hadoop components, and are convenient for administrators to manage and monitor, but also accommodate future expansion in data size and evolution of software capabilities. Written by John Russell, documentation lead for the Cloudera Impala project, this book gets you working with the most recent Impala releases quickly. Ideal for database developers and business analysts, this latest revision covers analytics functions, complex types, incremental statistics, subqueries, and submission to the Apache incubator. Getting Started with Impala includes advice from Cloudera’s development team, as well as insights from its consulting engagements with customers. Learn how Impala integrates with a wide range of Hadoop components Achieve high performance and scalability for big data and batch analysis tasks, such as real-time and batch processing of data. Use tutorials for working with billion-row tables, date- and time-based values, and other techniques. Learn how to transition from rigid schemas to a flexible model that evolves as needs change Take a deep dive into joins and performance Use tutorials for working with billion-row tables, date- and time-based values, and other techniques. Learn how to transition from rigid schemas to a flexible model that evolves as needs change Take a deep dive into joins and performance Use tutorials for working with billion-row tables, date- and time-based values, and other techniques.

An introduction to the ideas of computer programming within the context of the visual arts that also serves as a
Businesses are gathering data today at exponential rates and yet few people know how to access it meaningfully. If you're a business or IT professional, this short hands-on guide teaches you how to pull and transform data with SQL in significant ways. You will quickly master the fundamentals of SQL and learn how to create your own databases. Author Thomas Nield provides exercises throughout the book to help you practice your newfound SQL skills at home, without having to use a database server environment. Not only will you learn how to use key SQL statements to find and manipulate your data, but you'll also discover how to efficiently design and manage databases to meet your needs. You'll also learn how to: Explore relational databases, including lightweight and centralized models Use SQLite and SQLiteStudio to create lightweight databases in minutes Query and transform data in meaningful ways by using SELECT, WHERE, GROUP BY, and ORDER BY Join tables to get a more complete view of your business data Build your own tables and centralized databases by using normalized design principles Manage data by learning how to INSERT, DELETE, and UPDATE records

Summary Generative Art presents both the technique and the beauty of algorithmic art. The book includes high-quality examples of generative art, along with the specific programmatic steps author and artist Matt Pearson followed to create each unique piece using the Processing programming language. About the Technology Artists have always explored new media, and computer-based artists are no exception. Generative art, a technique where the artist creates print or onscreen images by using computer algorithms, finds the artistic intersection of programming, computer graphics, and individual expression. The book includes a tutorial on Processing, an open source programming language and environment for people who want to create images, animations, and interactions. About the Book Generative Art presents both the techniques and the beauty of algorithmic art. In it, you'll find dozens of high-quality examples of generative art, along with the specific steps the author followed to create each unique piece using the Processing programming language. The book includes concise tutorials for each of the technical components required to create the book's images, and it offers countless suggestions for how you can combine and reuse the various techniques to create your own works. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book. What's Inside The principles of algorithmic art A Processing language tutorial Using organic, pseudo-random, emergent, and fractal processes Table of Contents Part 1 Creative Coding Generative Art: In Theory and Practice Processing: A Programming Language for Artists Part 2 Randomness and Noise The Wrong Way to Draw A Line The Wrong Way to Draw a Circle Adding Dimensions Part 3 Complexity Emergence Autonomy Fractals

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