Learn To Program With Scratch: A Visual Introduction To Programming With Games, Art, Science, And Math

Synopsis

Scratch is a fun, free, beginner-friendly programming environment where you connect blocks of code to build programs. While most famously used to introduce kids to programming, Scratch can make computer science approachable for people of any age. Rather than type countless lines of code in a cryptic programming language, why not use colorful command blocks and cartoon sprites to create powerful scripts?In Learn to Program with Scratch, author Majed Marji uses Scratch to explain the concepts essential to solving real-world programming problems. The labeled, color-coded blocks plainly show each logical step in a given script, and with a single click, you can even test any part of your script to check your logic. You'll learn how to:Ã¢â ¬â œHarness the power of repeat loops and recursionÃ¢â ¬â œUse if/else statements and logical operators to make decisionsÃ¢â ¬â œStore data in variables and lists to use later in your programÃ¢â ¬â œRead, store, and manipulate user inputÃ¢â ¬â œImplement key computer science algorithms like a linear search and bubble sortHands-on projects will challenge you to create an Ohm's law simulator, draw intricate patterns, program sprites to mimic line-following robots, create arcade-style games, and more! Each chapter is packed with detailed explanations, annotated illustrations, guided examples, lots of color, and plenty of exercises to help the lessons stick. Learn to Program with Scratch is the perfect place to start your computer science journey, painlessly.Uses Scratch 2

Book Information

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Age Range: 10 and up

Grade Level: 5 - 12

Customer Reviews

View larger View larger A Note to the Reader The beauty of being a programmer is that you can 'create'. Think about it: You come up with an idea and use your keyboard for a couple of hours, and a new software project comes to life! Like any new skill, however, programming takes practice. Along the way, you'll most likely make mistakesÃƒÂ¢Ã â ¬Ã â •but don't give up. Take time to reflect on the concepts and experiment with different techniques until you master them. And then move on to learn something new. Whom This Book Is For: This book is for anyone eager to explore computer science. It teaches the fundamentals of programming, and it can be used as a textbook for middle and high school students or as a self-study guide. The book can also be used at the college level to teach elementary programming concepts to students from different backgrounds or as a companion textbook that provides an introduction to such a course. Teachers who want to use Scratch in the classroom can also benefit from the deeper understanding of programming to be found in this book. YouÃƒÂ¢Ã â ¬Ã â„¢ll develop the skills you need to engage students with Scratch in meaningful ways that are compatible with their needs. The book assumes no prior programming experience and, for the most part, no mathematics beyond what is taught in high school. Some of the advanced simulations can be skipped without causing any learning gap.

"Fills a void in the current literature on how to play with and manipulate Scratch."Ã¢â ¬â •School Library Journal"A terrific resource for middle or higher grade educators who are looking for great Scratch projects that align to other content areas."

Majed Marji is a senior development engineer at General Motors and an adjunct faculty member at Wayne State University in Michigan. He holds a PhD in electrical engineering from Wayne State University and an MBA in strategic management from Davenport University.

I've taught Scratch programming to 9 to 13 year-olds for a Saturday morning programming class for two years, and have written three programming books for young adults. As far as IÃƒÂ¢Ã â ¬Ã â„¢m concerned, Scratch is the only educational tool that teaches programming in a direct but still fun way. And ÃƒÂ¢Ã â ¬Ã Å“Learn to Program with ScratchÃƒÂ¢Ã â ¬Ã Â• is the best book I've found on the market to learn Scratch.The book covers a wide amount of ground while presenting fun projects for the reader to follow along with. Like a musical instrument, Scratch is very much a ÃƒÂ¢Ã â ¬Ã Å“hands onÃƒÂ¢Ã â ¬Ã Â• tool that you learn through practice, and this

book is a well-versed guide. ThereÃƒÂ¢Ã â ¬Ã â„¢re plenty of web tutorials and videos that teach Scratch piecemeal, but this is THE manual that Scratch has been needing for a while. At 250 pages, it is thorough while still being a light-read; itÃƒÂ¢Ã â ¬Ã â„¢s easy to just jump into any chapter and follow along.The one downside is that this book is probably best for teenagers and may be too verbose for kids around 10 or younger. But it makes an excellent book for parents or teachers to read through with their child (and a great way to introduce adults to Scratch programming as well). Otherwise, younger readers might like No Starch PressÃƒÂ¢Ã â ¬Ã â„¢s other Scratch book, ÃƒÂ¢Ã â ¬Ã Å“Super Scratch AdventuresÃƒÂ¢Ã â ¬Ã Â• which is not as thorough but is a gentler introduction to Scratch programming.I highly recommend this book for schoolchildren to learn programming from.Full disclosure, I am currently writing a Python programming book for adults for No Starch Press.

I teach beginning computer programming at middle school level, and this book became the backbone of the course. The concepts are clearly expressed and the examples work!Congratulations to the author for an amazingly effective book.

I bought this book for my son, who just got interested in Scratch. This book is great for beginners because it tells what Scratch is, and it tells you the basics of Scratch, it also teaches you to make simple games too! I would defiantly recommend this for beginners. He uses it EVERY day! He also showed me a ''Pong'' game that he made! This book is great.

I am an elementary school teacher, 4th grade. I bought this for one of my students who has a strong interest in programming after introducing him to scratch.MIT. when the book arrived, I was disappointed that it was written at such a high level. I decided to give it to him anyways. He took off with it and now holds "workshops" once a week in class to demonstrate and teach other students what he had learned!Amazing!

I chose this rating because the text is easy to read and easy to understand. It cross-references the scratch tutorials online and offers formatted practices for new students of programming.I bought the book after working at a booth at a statewide library association conference where "Learn to Program with Scratch" was on display.. The response to the book and publisher by dozens of librarians was impressive. One youth librarian bought the only sample copy available to support the Scratch Camp he offers every summer at the public library where he is on staff. I gave the book to my grandson

(age 11) as a gift and watched him work through the first few sections. "Learn to Program With Scratch" is an excellent companion to any student of Scratch. I highly recommend this purchase for classrooms, tech classes, libraries or as a gift for the young student of programming.

My so loved this book!

I found the book to be very useful in teaching Scratch to my undergraduate business students who have little to no exposure to computer programming. Any chance you could make the book larger? It is quite hard to read the small prints.

Can’t wait to give this to mu techy son for Christmas, he’s been begging for a programming book and while my husband was content to throw his old college textbooks his way, I wanted to find something on his level, and low and behold here it is. He’ll be inventing an app in no time!

Greenfoot: Object-Oriented Programming in Java with Games and Simulations (2nd Edition) Warriors Word Scramble: Word Scramble Games - Word Search, Word Puzzles And Word Scrambles (Word Games, Brain Games, Word Search, Word Search Games, Word ... Scramble, Word Scrabble, Unscramble Word) Hoyle's Rules of Games: The Essential Family Guide to Card Games, Board Games, Parlor Games, New Poker Variations, and More Let's Measure It! Learn to Read, Math (Learn to Read, Read to Learn: Math) Python: Programming: Your Step By Step Guide To Easily Learn Python in 7 Days (Python for Beginners, Python Programming for Beginners, Learn Python, Python Language) Code Your Own Games!: 20 Games to Create with Scratch Data Analytics and Python Programming: 2 Bundle Manuscript: Beginners Guide to Learn Data Analytics, Predictive Analytics and Data Science with Python Programming