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Autore	Denny Mark W. <1951->
Titolo	Chance in biology [[electronic resource]] : using probability to explore nature / / Mark Denny and Steven Gaines
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Altri autori (Persone)	GainesSteven <1951->
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Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Frontmatter -- Contents -- Preface -- 1. The Nature of Chance -- 2. Rules of Disorder -- 3. Discrete Patterns of Disorder -- 4. Continuous Patterns of Disorder -- 5. Random Walks -- 6. More Random Walks -- 7. The Statistics of Extremes -- 8. Noise and Perception -- 9. The Answers -- Symbol Index -- Author Index -- Subject Index
Sommario/riassunto	Life is a chancy proposition: from the movement of molecules to the age at which we die, chance plays a key role in the natural world. Traditionally, biologists have viewed the inevitable "noise" of life as an unfortunate complication. The authors of this book, however, treat random processes as a benefit. In this introduction to chance in biology, Mark Denny and Steven Gaines help readers to apply the probability theory needed to make sense of chance events--using examples from ocean waves to spiderwebs, in fields ranging from molecular mechanics to evolution. Through the application of probability theory, Denny and Gaines make predictions about how plants and animals work in a stochastic universe. Is it possible to pack a variety of ion channels into a cell membrane and have each operate at near-peak flow? Why are our arteries rubbery? The concept of a random walk provides the necessary insight. Is there an absolute upper limit to

human life span? Could the sound of a cocktail party burst your eardrums? The statistics of extremes allows us to make the appropriate calculations. How long must you wait to see the detail in a moonlit landscape? Can you hear the noise of individual molecules? The authors provide answers to these and many other questions. After an introduction to the basic statistical methods to be used in this book, the authors emphasize the application of probability theory to biology rather than the details of the theory itself. Readers with an introductory background in calculus will be able to follow the reasoning, and sets of problems, together with their solutions, are offered to reinforce concepts. The use of real-world examples, numerous illustrations, and chapter summaries--all presented with clarity and wit--make for a highly accessible text. By relating the theory of probability to the understanding of form and function in living things, the authors seek to pique the reader's curiosity about statistics and provide a new perspective on the role of chance in biology.

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Smith Stephen

Raspberry Pi Assembly Language Programming : ARM Processor Coding // by Stephen Smith

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Raspberry Pi (Computer) - Programming
Assembly languages (Electronic computers)

Inglese

Materiale a stampa

Monografia

Chapter 1: Getting Started -- Chapter 2: Loading and Adding --
Chapter 3: Tooling Up -- Chapter 4: Controlling Program Flow --
Chapter 5: Thanks for the Memories -- Chapter 6: Functions and the
Stack -- Chapter 7: Linux Operating System Services -- Chapter 8:
Programming GPIO Pins -- Chapter 9: Interacting with C and Python --

Chapter 10: Multiply, Divide and Accumulate -- Chapter 11: Floating Point Operations -- Chapter 12: Neon Coprocessor -- Chapter 13: Optimizing Code -- Chapter 14: Reading and Understanding Code -- Chapter 15: Hacking Code -- Appendix A: The ARM Instruction Set -- Appendix B: Linux System Calls -- Appendix C: Binary Formats -- Appendix D: Assembler Directives -- Appendix E: ASCII Character Set.

Sommario/riassunto

Gain all the skills required to dive into the fundamentals of the Raspberry Pi hardware architecture and how data is stored in the Pi's memory. This book provides you with working starting points for your own projects while you develop a working knowledge of Assembly Language programming on the Raspberry Pi. You'll learn how to interface to the Pi's hardware including accessing the GPIO ports. The book covers the basics of code optimization as well as how to inter-operate with C and Python code, so you'll develop enough background to use the official ARM reference documentation for further projects. With Raspberry Pi Assembly Language Programming as your guide, you'll study how to read and reverse engineer machine code and then apply those new skills to study code examples and take control of your Pi's hardware and software both. For this New Edition Since the original edition, the Raspberry Pi OS has moved to 64-bits. The operating system has been revamped along with several new versions of the Raspberry Pi hardware. The new edition is 64-bit, based on the latest Raspberry Pi OS and hardware, and incorporates reader feedback from the first edition. What You'll Learn Program basic ARM 64-Bit Assembly Language Interface with the various hardware devices on the Raspberry Pi Comprehend code containing Assembly Language Use the official ARM reference documentation.