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Sommario/riassunto	The second edition of this core textbook is a thorough, up-to-date introduction to the principles and techniques that guide the design and implementation of modern programming languages. The goal of the book is to provide the basis for a critical understanding of most modern programming languages. Thus, rather than focusing on a specific language, the book identifies the most important principles shared by large classes of languages. The notion of ‘abstract machine’ is a unifying concept that helps to maintain an accurate and elementary treatment. The book introduces, analyses in depth, and compares the imperative, object-oriented, functional, logic, concurrent, constraint-based, and service-oriented programming paradigms. All material coming from the first English edition has been updated and extended, clarifying some tricky points, and discussing newer programming languages. This second edition contains new chapters dedicated to

constraint, concurrent, and service-oriented programming. Topics and features: Requires familiarity with one programming language is a prerequisite Provides a chapter on history offering context for most of the constructs in use today Presents an elementary account of semantical approaches and of computability Introduces new examples in modern programming languages like Python or Scala Offers a chapter that opens a perspective on applications in artificial intelligence Conceived as a university textbook, this unique volume will also be suitable for IT specialists who want to deepen their knowledge of the mechanisms behind the languages they use. The choice of themes and the presentation style are largely influenced by the experience of teaching the content as part of a bachelor's degree in computer science. The authors are all affiliated with the Dept. of Computer Science and Engineering of the University of Bologna. Maurizio Gabbrielli and Simone Martini are professors of computer science, Saverio Giallorenzo is junior assistant professor of computer science. .