

1. Record Nr.	UNINA9910255454103321
Autore	Streib James T
Titolo	Guide to Data Structures : A Concise Introduction Using Java // by James T. Streib, Takako Soma
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-70085-5
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XIII, 376 p. 43 illus., 9 illus. in color.)
Collana	Undergraduate Topics in Computer Science, , 2197-1781
Disciplina	005.73
Soggetti	Artificial intelligence - Data processing Computer arithmetic and logic units Information retrieval Computer architecture Data Science Arithmetic and Logic Structures Data Storage Representation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preliminary Concepts -- Stacks Using Arrays -- Queues Using Arrays -- Lists Using Arrays -- Lists Using Objects and References -- Ordered Linked Lists -- Stacks and Queues Using References -- Binary Trees -- Sorting -- Heaps -- Hashing.
Sommario/riassunto	This accessible and engaging textbook/guide provides a concise introduction to data structures and associated algorithms. Emphasis is placed on the fundamentals of data structures, enabling the reader to quickly learn the key concepts, and providing a strong foundation for later studies of more complex topics. The coverage includes discussions on stacks, queues, lists, (using both arrays and links), sorting, and elementary binary trees, heaps, and hashing. This content is also a natural continuation from the material provided in the separate Springer title Guide to Java by the same authors. Topics and features: Reviews the preliminary concepts, and introduces stacks and queues using arrays, along with a discussion of array-based lists Examines linked lists, the implementation of stacks and queues using

references, binary trees, a range of varied sorting techniques, heaps, and hashing Presents both primitive and generic data types in each chapter, and makes use of contour diagrams to illustrate object-oriented concepts Includes chapter summaries, and asks the reader questions to help them interact with the material Contains numerous examples and illustrations, and one or more complete program in every chapter Provides exercises at the end of each chapter, as well as solutions to selected exercises, and a glossary of important terms This clearly-written work is an ideal classroom text for a second semester course in programming using the Java programming language, in preparation for a subsequent advanced course in data structures and algorithms. The book is also eminently suitable as a self-study guide in either academe or industry. Dr. James T. Streib is a Professor of Computer Science at Illinois College, Jacksonville, IL, USA. Dr. Takako Soma is an Associate Professor of Computer Science at the same institution.
