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| | Autore | Crotts Joshua |
| | Titolo | Learning Java : A Test-Driven Approach / / by Joshua Crotts |
| | Pubbl/distr/stampa | Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024 |
| | ISBN | 3-031-66638-0 |
| | Edizione | [1st ed. 2024.] |
| | Descrizione fisica | 1 online resource (474 pages) |
| | Disciplina | 005.133 |
| | Soggetti | Java (Computer program language) |
| | | Computer programming |
| | | Computer programs - Testing |
| | | Education - Data processing |
| | | Java |
| | | Programming Techniques |
| | | Software Testing |
| | | Computers and Education |
| | Lingua di pubblicazione | Inglese |
| | Formato | Materiale a stampa |
| | Livello bibliografico | Monografia |
| | Nota di contenuto | Part I: Java Programming and Data Structures -- 1. Testing and Java Basics -- 2. Conditionals, Recursion, and Loops -- 3. Arrays, Collections, and Generics -- Part II: Objects, Classes, Exceptions, and I/O -- 4. Object-Oriented Programming -- 5. Exceptions & Data I/O -- Part III: Searching, Sorting, and Algorithms -- 6. Searching & Sorting -- 7. Algorithm Analysis -- 8. Modern Java and Advanced Topics. |
| | Sommario/riassunto | This introductory textbook on Java programming is different from others by its emphasis on test-driven development. Writing tests before designing the implementation is incredibly important for debugging purposes and understanding the desired outcome. While testing is often an afterthought in other Java textbooks (being placed at the very end or not at all, which is in some ways cruel to withhold such capabilities from the student), this text takes a different, perhaps "functional" approach to learning Java: it introduces testing and methods from the start, followed by conditionals, recursion, and loops (on purpose in this very order). It then dives deep into data structures |

and the Java Collections API, including streams and generics. After this, it pivots to object-oriented programming, exceptions and I/O, searching and sorting, algorithm analysis, and eventually advanced Java/programming topics. This ordering of topics is well adjusted to prepare students to subsequent upper-level courses in data structure or algorithm design and implementation. The approach is illuminated by numerous code snippets and the students' understanding is consolidated by about 250 exercises covering all topics covered in the book. With this book, readers will not only learn how to program Java, but also acquire a necessary precondition for successfully writing and testing commercial software. .