1. Record Nr. UNINA9910300259503321 Autore Gander Walter Titolo Learning MATLAB: A Problem Solving Approach / / by Walter Gander Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2015 3-319-25327-1 **ISBN** Edizione [1st ed. 2015.] Descrizione fisica 1 online resource (XIV, 149 p. 49 illus., 7 illus. in color.) Collana La Matematica per il 3+2, , 2038-5722 ; ; 95 Disciplina 510 Soggetti Algorithms Computer mathematics Computer software Software engineering Application software Computational Science and Engineering Mathematical Software Software Engineering/Programming and Operating Systems Computer Applications Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Bibliographic Level Mode of Issuance: Monograph Nota di bibliografia Includes bibliographical references. Nota di contenuto Chapter 1. Starting and Using Matlab -- Chapter 2. How a Computer Calculates -- Chapter 3. Plotting Functions and Curves -- Chapter 4. Some Elementary Functions -- Chapter 5. Computing with Multiple Precision -- Chapter 6. Solving Linear Equations -- Chapter 7. Recursion -- Chapter 8. Iteration and Nonlinear Equations -- Chapter 9. Simulation -- Chapter 10. Solutions of Problems -- Bibliography. Sommario/riassunto This comprehensive and stimulating introduction to Matlab, a computer language now widely used for technical computing, is based on an introductory course held at Qian Weichang College, Shanghai University, in the fall of 2014. Teaching and learning a substantial programming language aren't always straightforward tasks. Accordingly, this textbook is not meant to cover the whole range of this high-performance technical programming environment, but to

motivate first- and second-year undergraduate students in

mathematics and computer science to learn Matlab by studying representative problems, developing algorithms and programming them in Matlab. While several topics are taken from the field of scientific computing, the main emphasis is on programming. A wealth of examples are completely discussed and solved, allowing students to learn Matlab by doing: by solving problems, comparing approaches and assessing the proposed solutions.