



## METADATA

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### Abstract

Programming has become increasingly ingrained in modern life's scientific and technical activities during the past few decades. The extension of existing codes or the creation of new ones, with features such as agility and reliability, is required to process and analyze big data or complicated physical and technical systems. This book can be used as an introduction to programming logic and it aims to acquaint readers with the fundamental concepts of developmental programming skills. The first two chapters cover the basics of programming, the MATLAB environment, and the basic mathematical and logical functions.

The functions that are used to implement flow control or loops and iterations are presented in Chapters 3 and 4. The methods for creating and configuring 2D and 3D graphics are presented in Chapters 5 and 6. Chapter 8 focuses on matrices and the way that MATLAB handles them, while Chapter 7 deals with polynomials and complex numbers. In Chapter 9, the creation and the use of functions files are introduced, and in Chapter 10 the fundamental MATLAB commands for symbolic mathematics are presented. Integrated programs are presented in Chapter 11 to resolve challenging problems that require complicated solutions.

