Book Summary

This book provides a practical and comprehensive guide to the world of programming, from basic concepts to building simple and complex applications. The book is designed to serve as a bridge between beginners with no previous programming experience and readers with a simple background who want to deepen their knowledge and apply it to real-world projects.

Target Audience

Beginners: Those who want to learn programming from scratch.

Self-learners: Those who rely on open online resources and want a systematic guide.

University students: Those who need simplified references to support their coursework.

Hobbyist developers: Those who want to move from writing simple scripts to building more organized and efficient programs.

key Features of the Book
Simplified Theoretical Explanations

Defining Variables, Conditional Structures, and Loops.

Object-Oriented Programming (OOP) Concepts in a Fluent Approach.

Step-by-Step Application Examples

Small Projects (Calculator, Simple Blog)

Gradual Complexity with Explanations of Each Step

Exercises and Challenges

Structural Questions after Each Chapter

Daily Challenges to Stimulate Logical Thinking

Practical Tips

How to Read Compiler/Interpreter Errors

Organizing Files and Projects

Principles of Collaboration via Git and GitHub

Additional References

Suggested Modern Libraries and Frameworks

Websites for Continuous Learning and Documentation

Chapter Contents (Overview)
Introduction to Programming

What is programming and why should we learn it?

Setting up the work environment.

Language Basics

Variables and Data Types.

Arithmetic and Logical Operations.

Control Structures

Conditional Statements.

Loops (for, while).

Functions

Defining and Calling a Function.

Operators and Return Values.

Object-Oriented Programming (OOP)

Classes and Objects.

Inheritance, Abstraction, and Encapsulation.

File Handling

Reading and Writing Text Files.

Handling Common Formats (CSV, JSON).

Introduction to Databases

Basic Concepts.

Binding to a Programming Language.

Building an Application Project

Requirements Analysis.

Design and Implementation.

Deploying and Maintaining the Project

Deploying to a Local or Cloud Server.

Release and Update Management.

With this comprehensive, gradual structure, the reader will be able to:

Understand basic and advanced programming concepts.

Write integrated and scalable programs.

Learn about modern development tools and best practices.

This book is your ideal companion on your journey to professional programming.