

Preface

It is the breakthrough feature of Object Oriented Programming that has made C++ the most widely used programming language today. Historically programming challenge was seen as how to write the logic; not how to define the data. Object-oriented programming approach takes the view that data are not just numbers and characters; they are objects made of several components that are numbers, characters and strings of characters.

This is an introductory text that introduces student to computers and computer programming with C++ including object oriented programming. It provides some of the basics of computers, and all of the basics of computer programming with C++ in the first few chapters. It then introduces the object oriented programming. The material presented here is usually taught in two consecutive courses. The book assumes neither previous programming knowledge and nor mathematical skills beyond high school algebra. The goal of the book is, in addition to teaching the programming language C++, to develop essential technical programming skills that will get the student ready for collaborative programming teams.

Features of This Book

Starting from the simplest concepts such as assignments and expressions to the more advanced ones such as classes, everything is presented in the natural order, with brief and clear explanations and with illustrations through carefully selected examples. Throughout the book the reader is taught to design 'good' computer programs that are friendly to the users as well as to other programmers who read the program. Emphasis is given to teaching the student a wide range of ideas involved in computer programming rather than teaching just the C++ language. Exercises are provided at the end of each section rather than at the end of each chapter. Exercises are designed to give a thorough review of the material discussed in the section and to illustrate the uses of these ideas in computer programming. Also, warm-up exercises are inserted throughout the text to test the student's understanding of each concept taught, wherever appropriate. In a class room, typically the instructor would have the students do these exercises in class with assistance.

Throughout the book the key points that the student should focus on and make sure to remember are appropriately highlighted using indented paragraphs and/or text-boxes. When a student reviews the material for an exam, he or she can just read these highlighted points rather than reading all of the text.