Object-Oriented Computation . . .

"*Object Oriented Computation in C++ and Java* fills a gap in the literature of object-oriented programming. Most C++ or Java textbooks, courses, and class libraries emphasize object-oriented classes for two kinds of data:

- one-dimensional containers (Java collections), such as vectors, lists, and sets
- graphical interface (GUI) components, such as windows and forms

"Of course, most of the data items our programs process belong to neither of those categories. Container structures and GUI components rarely belong to the application domain. That is, they don't represent actual objects in the real world of a business or scientific application. True application-domain objects model the real-world data that are most often the very purpose behind developing a computer application.

"This book is about an important subset of application-domain data: **numeric data items**. Numeric data are central both to most business application and to every engineering or scientific application. When we model objects we not only mustn't ignore numeric data items, we must strongly emphasize them. . . .

"Whether you're an advanced student or a mature professional, you surely want to be a good programmer. After mastering these concepts and techniques you can expect • to produce application software of high quality, as measured especially by the cost of its future maintenance, and also by robustness, efficiency, ease of use, and potential reuse • to be highly productive, solving problems in far less time than the average programmer • to exercise creativity and originality, developing nonobvious solutions to problems that an average programmer either might not solve at all or would solve in a crude way."

—from the preface

About the Author

Conrad Weisert is known as a leader and innovator in exploiting systematic approaches to information system design and large-scale project management. He currently conducts academic courses at several institutions, most recently in information systems at De Paul University and advanced computer programming at Illinois Institute of Technology.
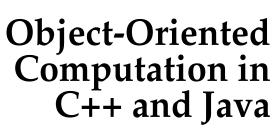
Partial Contents

Object-Oriented Computation in C++ and Java

by Conrad Weisert

Maximize the Computational Power of Object-Oriented Programming

Virtually all business, scientific, and engineering applications are heavily reliant on numeric data items.

However, most books on object-oriented programming gloss over such numeric data items, emphasizing instead one-dimensional containers or collections and components of the graphical user interface. *Object-Oriented Computation in C++ and Java* fills the gap left by such books.

Not limited to any language or methodology, the concepts and techniques discussed in this book are entirely independent of one's choice of design and coding methodology. Practitioners of Extreme Programming, UML-driven design, agile methods, incremental development, and so on, will all develop these same data classes.

Whether you are a seasoned professional or an advanced computer science student, this book will teach you how to improve the quality of your programming and the efficiency of your applications. By using problems and exercises presented in the book, you will learn new ways to implement the computational power of C++, Java, and numeric data items.

Topics include • taxonomy of data types • developing and using object-oriented classes for numeric data • design patterns for commonly occurring numeric data types • families of interacting numeric data types • choosing efficient and flexible internal data representations • techniques for exploiting pattern reuse in C++ • conventions for arithmetic operations in Java • numeric vectors and matrices.

Read more about this book at
www.dorsethouse.com/books/ooc.html