Object-Oriented Programming Featuring Graphical Applications in Java

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Book

Description
The goal of this book is to explore the principle ideas of object-oriented programming using the Java programming language. It begins teaching the object-oriented power of Java by relying on textual commands instead of emphasizing the AWT or Swing libraries, providing the reader with a simple, generic introduction to the OO concepts using Java (without the language details getting in the way of the concept presentation).

The author provides a thorough introduction to the three fundamental concepts of object-oriented programming: Encapsulation, Inheritance, and Polymorphism. The presentation of OO theory is augmented by interleaved examples that illustrate these concepts. Most of these program examples are 2-D graphics programs that provide an intuitive context for the issues that must be addressed when learning OOP. Additionally, since graphics programming is one of the strengths of the Java development environment, the examples produce interesting and unexpected images that engage and motivate the reader.

It contains a concise introduction to using Design Patterns particularly the Template Method, Iterator, and Composite design patterns which relate to the graphics examples in the book and uses UML class diagrams to show the static structure of systems and sequence diagrams to show object interactions. This book is appropriate for readers who are new to object-oriented (but have experience with a non-object-oriented language) and for programmers who want to learn the graphical elements and capabilities of Java.

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Object-oriented programming is a way of designing and programming software by manipulating objects and the objects are the main part of the programming. Discover our entire series of Java Tutorials for Beginners here. What You Will Learn: Video Tutorials on OOPS Concepts. Object-Oriented Programming (OOP) In Java. Java is the most sought after programming skill at present. In Java, everything is based on the object. Java has a root class called Object from which the entire functionality of Java is derived. Using data abstraction, we only expose the essential parts of the application that are made accessible to the user. For example, if we have a car, we are not concerned about the internal components of the car, rather we only consider the car as a whole.

how to learn object-oriented programming by learning the Java language: basic manual. Classes embody all features of a particular set of objects. When you write a program in an object-oriented language, you don’t define individual objects. Instead, you define classes used to create those objects. If you were writing a networking program in Java, you could create a HighSpeedModem class that describes the features of all Internet modems. These devices have the following common features: They connect to a computer’s ethernet port.

Organizing Classes and Class Behavior. Object-oriented programming in Java also requires three more concepts: inheritance, interfaces, and packages. All three are mechanisms for organizing classes and class behavior: Inheritance.