Chapter 2

Data Design and Implementation

After studying this chapter, you should be able to

* Describe an ADT from three perspectives: the logical level, the application level, and the implementation level
* Explain how a specification can be used to represent an ADT
* Describe the component selector at the logical level, and describe appropriate applications for the C++ built-in types: structs, classes, one-dimensional arrays, and two-dimensional arrays
* Declare a class object
* Implement the member functions of a class
* Manipulate instances of a class (objects)
* Define the three ingredients of an object-oriented programming language: encapsulation, inheritance, and polymorphism
* Distinguish between containment and inheritance
* Use inheritance to derive one class from another class
* Use the C++ exception-handling mechanism
* Access identifiers within a namespace
* Explain the use of Big-O notation to describe the amount of work done by an algorithm