3.7 Wrap-Up

In this chapter, you learned how to create your own classes and methods, create objects of those classes and call methods of those objects to perform useful actions. You declared instance variables of a class to maintain data for each object of the class, and you declared your own methods to operate on that data. You learned how to call a method to tell it to perform its task, how to pass information to a method as arguments whose values are assigned to the method's parameters and how to receive the value returned by a method. You learned the difference between a local variable of a method and an instance variable of a class, and that only instance variables are initialized automatically. You also learned how to use a class's constructor to specify the initial values for an object's instance variables. You saw how to create UML class diagrams that model visually the methods, attributes and constructors of classes. Finally, you learned about floating-point numbers (numbers with decimal points)—how to store them with variables of primitive type `double`, how to input them with a `Scanner` object and how to format them with `printf` and format specifier `%f` for display purposes. [In Chapter 8, we'll begin representing monetary amounts precisely with class `BigDecimal`.] You may have also begun the optional GUI and Graphics case study, learning how to write your first GUI applications. In the next chapter we begin our introduction to control statements, which specify the order in which a

program’s actions are performed. You’ll use these in your methods to specify how they should order their tasks.