

# 23

*Observe due measure, for right timing is in all things the most important factor.*

—Hesiod

*Painting is only a bridge linking the painter's mind with that of the viewer.*

—Eugene Delacroix

*The direction in which education starts a man will determine his future in life.*

—Plato

## Applets and Java Web Start

### Objectives

In this Chapter you'll learn:

- What applets are and how they are used in web pages.
- To observe some of Java's exciting capabilities through the JDK's demonstration applets.
- To write simple applets.
- To write a simple Extensible HyperText Markup Language (XHTML) document to load an applet into an applet container and execute the applet.
- Five methods that are called automatically by an applet container during an applet's life cycle.
- What the sandbox security model is and how it enables you to run downloaded code safely.
- What Java Web Start is and how to use it to download, install and run applets outside of the web browser.

## Self-Review Exercise

**23.1** Fill in the blanks in each of the following:

- a) Java applets begin execution with a series of three method calls: \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

ANS: init, start, paint.

- b) The \_\_\_\_\_ method is invoked for an applet each time a browser's user leaves an XHTML page on which the applet resides.

ANS: stop.

- c) Every applet should extend class \_\_\_\_\_.

ANS: JApplet (or Applet).

- d) The \_\_\_\_\_ or a browser can be used to execute a Java applet.

ANS: appletviewer.

- e) The \_\_\_\_\_ method is called each time the user of a browser revisits the XHTML page on which an applet resides.

ANS: start.

- f) To load an applet into a browser, you must first define a(n) \_\_\_\_\_ file.

ANS: XHTML.

- g) Method \_\_\_\_\_ is called once when an applet begins execution.

ANS: init.

- h) Method \_\_\_\_\_ is invoked to draw on an applet.

ANS: paint.

- i) Method \_\_\_\_\_ is invoked for an applet when the browser removes it from memory.

ANS: destroy.

- j) The \_\_\_\_\_ and \_\_\_\_\_ XHTML tags specify that an applet should be loaded into an applet container and executed.

ANS: <applet>, </applet>.

- k) \_\_\_\_\_ is a framework for running downloaded programs outside the browser.

ANS: Java Web Start.

- l) A(n) \_\_\_\_\_ document provides the information that Java Web Start needs to download and run a program.

ANS: Java Network Launch Protocol (JNLP).

- m) The \_\_\_\_\_ enables you to manage the Java Web Start programs on your system.

ANS: Java Cache Viewer.

## Exercises

**NOTE:** Solutions to the programming exercises are located in the **ch23solutions** folder. Each exercise has its own folder named **ex23\_##** where **##** is a two-digit number representing the exercise number. For example, exercise 23.10's solution is located in the folder **ex23\_10**.