Chapter 15 JavaServer Pages

1. A JSP page must first be processed by a Web server before
    it can be displayed in a Web browser. The Web server must
    support JSP, and the JSP page must be stored in a file
    with a .jsp extension. The Web server translates the .jsp
    file into a Java servlet, compiles the servlet, and
    executes it. The result of the execution is sent to the
    browser for display. Figure 15.1 shows how a JSP page is
    processed by a Web server.

2. A JSP *expression* is used to insert a Java expression
    directly into the output. It has the following form:

<%= Java-expression %>

The expression is evaluated, converted into a string, and sent to
the output stream of the servlet.

A JSP *scriptlet* enables you to insert a Java statement into the
servlet's jspService method, which is invoked by the service
method. A JSP scriptlet has the following form:

<% Java statement %>

A JSP *declaration* is for declaring methods or fields into the
servlet. It has the following form:

3. You can use variables in JSP. For convenience, JSP provides eight
predefined variables from the servlet environment that can be used with
JSP expressions and scriptlets. These variables are also known as *JSP
implicit objects*. The predefined variables are request, response, out,
session, application, config, and page.

4. A JSP directive is a statement that gives the JSP engine
information about the JSP page. The page directive lets you
provide information for the page, such as importing classes and
setting up content type. The page directive can appear anywhere
in the JSP file.

5. The difference lies in the scope. JSP allows you to share the
object of a class among different pages.

6. The scope attribute specifies the scope of the object. Four
scopes are page, application, session, and request.

7. When <jsp:useBean id="objectName" scope="scopeAttribute"
class="ClassName" /> is processed, the JSP engine first searches
for the object of the class with the same id and scope. If found,
the preexisting bean is used; otherwise, a new bean is created.

8. Web applications developed using JSP generally consist of many pages linked together. JSP provides a forwarding tag in the following syntax that can be used to forward a page to another page.

```
<jsp:forward page="destination" />
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