7.3 Building Excel Spreadsheets

Although servlets usually generate HTML output, they are not required to do so. HTTP is fundamental to servlets; HTML is not. Now, it is sometimes useful to generate Microsoft Excel content so that users can save the results in a report and so that you can make use of the built-in formula support in Excel. Excel accepts input in at least three distinct formats: tab-separated data, HTML tables, and a native binary format.

In this section, we illustrate the use of tab-separated data to generate spreadsheets. In Chapter 12 (Controlling the Structure of Generated Servlets: The JSP page Directive), we show how to build Excel spreadsheets by using HTML-table format. No matter the format, the key is to use the `Content-Type` response header to tell the client that you are sending a spreadsheet. You use the shorthand `setContentType` method to set the `Content-Type` header, and the MIME type for Excel spreadsheets is `application/vnd.ms-excel`. So, to generate Excel spreadsheets, just do:

```
response.setContentType("application/vnd.ms-excel");
PrintWriter out = response.getWriter();
```

Then, simply print some entries with tabs (`\t` in Java strings) in between. That's it: no `DOCTYPE`, no `HEAD`, no `BODY`: those are all HTML-specific things.

Listing 7.1 presents a simple servlet that builds an Excel spreadsheet that compares apples and oranges. Note that `=SUM(col:col)` sums a range of columns in Excel. Figure 7-1 shows the results.

Listing 7.1 ApplesAndOranges.java

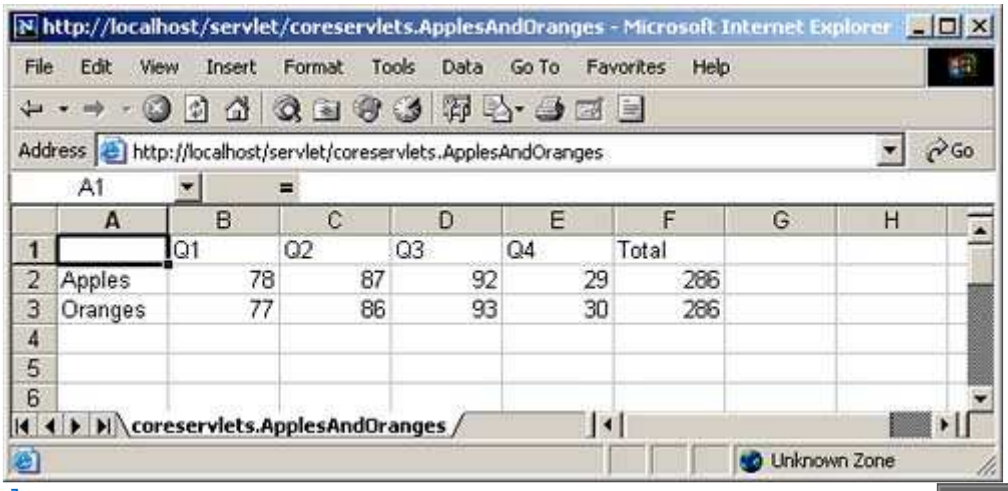
```
package coreservlets;

import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

/** Servlet that creates Excel spreadsheet comparing
 *  apples and oranges.
 */

public class ApplesAndOranges extends HttpServlet {
  public void doGet(HttpServletRequest request,
                    HttpServletResponse response)
      throws ServletException, IOException {
      response.setContentType("application/vnd.ms-excel");
      PrintWriter out = response.getWriter();
      out.println("\tQ1\tQ2\tQ3\tQ4\tTotal");
      out.println("Apples\t78\t87\t92\t29\t=SUM(B2:E2)");
      out.println("Oranges\t77\t86\t93\t30\t=SUM(B3:E3)");
  }
}
```

Figure 7-1. Result of the `ApplesAndOranges` servlet in Internet Explorer on a system that has Microsoft Office installed.



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