```
 1  // joi/10/juno/ShellCommandTable.java
 2  //
 3  //
 4  // Copyright 2003 Bill Campbell and Ethan Bolker
 5
 6  import java.util.*;
 7
 8  /**
 9   * A ShellCommandTable object maintains a dispatch table of
10   * ShellCommand objects keyed by the command names used to invoke
11   * them.
12   *
13   * To add a new shell command to the table, install it from
14   * method fillTable().
15   *
16   * @see ShellCommand
17   *
18   * @version 10
19   */
20
21  public class ShellCommandTable
22      implements java.io.Serializable
23  {
24      private Map table = new TreeMap();
25
26      /**
27       * Construct and fill a shell command table.
28       */
29
30      public ShellCommandTable()
31      {
32          fillTable();
33      }
34
35      /**
36       * Get a ShellCommand, given the command name key.
37       *
38       * @param key the name associated with the command we're
39       *            looking for.
40       *
41       * @return the command we're looking for, null if none.
42       */
43
44      public ShellCommand lookup( String key )
45      {
46          ShellCommand commandObject = (ShellCommand) table.get( key );
47          if (commandObject != null) {
48              return commandObject;
49          }
50
51          // try to load dynamically
52          // construct classname = "KeyCommand"
53          char[] chars = (key + "Command").toCharArray();
54          chars[0] = key.toUpperCase().charAt(0);
55          String classname = new String(chars);
56          try {
```



```
57              commandObject =
58                  (ShellCommand)Class.forName(classname).newInstance();
59          }
60          catch (Exception e) { // couldn't find class
61              return null;
62          }
63          install(key, commandObject); // put it in table for next time
64          return commandObject;
65      }
66
67      /**
68       * Get an array of the command names.
69       *
70       * @return the array of command names.
71       */
72
73      public String[] getCommandNames()
74      {
75          return (String[]) table.keySet().toArray( new String[0] );
76      }
77
78      // Associate a command name with a ShellCommand.
79
80      private void install( String commandName, ShellCommand command )
81      {
82          table.put( commandName, command );
83      }
84
85      // Fill the dispatch table with ShellCommands, keyed by their
86      // command names.
87
88      private void fillTable()
89      {
90          install( "list", new ListCommand() );
91          install( "cd", new CdCommand() );
92          install( "newfile", new NewfileCommand() );
93          install( "remove", new RemoveCommand() );
94          install( "help", new HelpCommand() );
95          install( "mkdir", new MkdirCommand() );
96          install( "type", new TypeCommand() );
97          install( "logout", new LogoutCommand() );
98      }
99  }
```