```
 1: // $Id: sortlist.java,v 1.1 2012-02-09 18:54:08-08 - - $
 2:
 3: import java.util.Scanner;
 4: import static java.lang.System.*;
 5:
 6: class sortlist {
 7:
 8:     static class list_t {
 9:         node_t head;
10:     }
11:     static class node_t {
12:         String item;
13:         node_t link;
14:     }
15:
16:     static void insertascending (list_t list, String newitem) {
17:         node_t prev = null;
18:         node_t curr = list.head;
19:
20:         // Find the insertion position.
21:         while (curr != null) {
22:             if (curr.item.compareTo (newitem) > 0) break;
23:             prev = curr;
24:             curr = curr.link;
25:         }
26:
27:         // Do the insertion.
28:         node_t temp = new node_t();
29:         temp.item = newitem;
30:         temp.link = curr;
31:         if (prev == null) list.head = temp;
32:                      else prev.link = temp;
33:     }
34:
35:     public static void main (String[] args) {
36:         Scanner stdin = new Scanner (System.in);
37:         list_t list = new list_t();
38:
39:         while (stdin.hasNextLine()) {
40:             String line = stdin.nextLine();
41:             insertascending (list, line);
42:         }
43:
44:         for (node_t curr = list.head; curr != null; curr = curr.link) {
45:             out.printf ("%s%n", curr.item);
46:         }
47:     }
48:
49: }
50:
51: /*
52: //TEST// (echo "{{Note the ordering of special characters.}}" \
53: //TEST// ;echo "testing the sort" \
54: //TEST// ;echo "is the output sorted" \
55: //TEST// ;echo "Output should be in lexicographic order." \
56: //TEST// ;echo "from this program, is sorted" \
57: //TEST// ;echo "a last line is given" \
58: //TEST// ;echo "BUT A CAPITAL LINE COMES FIRST" \
59: //TEST// ;echo "//Slashes//" \
60: //TEST// ) | runprog -x sortlist.lis -0- ./sortlist
61: //TEST// mkpspdf sortlist.ps sortlist.j* sortlist.lis*
62: */
63:
```

```
    1: @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ mkc: starting sortlist.java
    2: sortlist.java: $Id: sortlist.java,v 1.1 2012-02-09 18:54:08-08 - - $
    3: javac -Xlint sortlist.java
    4: jar cfm sortlist Manifest sortlist$list_t.class sortlist$node_t.class sortlist.c
lass
    5: chmod +x sortlist
    6: rm -f sortlist$list_t.class sortlist$node_t.class sortlist.class
    7: @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ mkc: finished sortlist.java
```

```
 1:
 2: ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
 3: log: sortlist.log
 4: ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
 5:
 6:       1   Script  : /afs/cats.ucsc.edu/courses/cmps012b-wm/bin/runprog
 7:       2   limit c :     0 max core file size (KB)
 8:       3   limit f : 4194303 max output file size (KB)
 9:       4   limit t : 4294967295 max CPU time (sec)
10:       5   stdin   : -
11:       6   stdout  : sortlist.out
12:       7   stderr  : sortlist.err
13:       8   log     : sortlist.log
14:       9   listing : sortlist.lis
15:      10   Command : ./sortlist
16:      11   starting: pid 14747: 18:54:09.00
17:      12   finished: pid 14747: 18:54:09.00, real 0.00, user 0.04, sys 0.01
18:      13   pstatus: 0x0000 EXIT STATUS = 0
19:
20: ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
21: stdout: sortlist.out
22: ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
23:
24:       1   //Slashes//
25:       2   BUT A CAPITAL LINE COMES FIRST
26:       3   Output should be in lexicographic order.
27:       4   a last line is given
28:       5   from this program, is sorted
29:       6   is the output sorted
30:       7   testing the sort
31:       8   {{Note the ordering of special characters.}}
32:
33: ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
34: stderr: sortlist.err
35: ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
36:
```