

```
1 import java.util.Comparator;
2
3 import components.map.Map;
4 import components.map.Map3;
5 import components.simplereader.SimpleReader;
6 import components.simplereader.SimpleReader1L;
7 import components.simplewriter.SimpleWriter;
8 import components.simplewriter.SimpleWriter1L;
9
10 /**
11  * Simple HelloWorld program (clear of Checkstyle and SpotBugs warnings).
12  *
13  * @author Yunlong Zhang
14  */
15 public final class WordCunter {
16
17     public static void main(String[] args) {
18
19         SimpleReader in = new SimpleReader1L();
20         SimpleWriter out = new SimpleWriter1L();
21
22         out.println("Please enter the file name: ");
23         String fileName = in.nextLine();
24         out.println("Please enter the output name: ");
25         String outPutName = in.nextLine();
26         // code above to get file name and output name from user.
27
28         SimpleReader inFile = new SimpleReader1L(fileName);
29         SimpleWriter outFile = new SimpleWriter1L(outPutName);
30         // code above is about read user's file and output a new file
31
32         Map<String, Integer> result = new Map3<>(new stringCompare());
33
34         outPutHeader(outFile, fileName);
35         // code above to print html header.
36         buildMap(result, inFile);
37         // code above to set a new map.
38         bodyPart(result, outFile);
39         // code above to print body part.
40         outPutFooter(outFile);
41         // code above to print footer
42
43         in.close();
44         out.close();
45         inFile.close();
46         outFile.close();
47     }
48
49     public static void outPutHeader(SimpleWriter out, String fileName) {
50
51         out.println("<html>");
52         out.println("<head>");
53         out.println("<title>" + "Words Counted in " + fileName + "</title>");
54         out.println("</head>");
55         out.println("<body>");
56         out.println("<h2>" + "Words Counted in " + fileName + "</h2>");
57         out.println("<hr />");
58         out.println("<table border=\"1\">");
59         out.println("<tr>");
```

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60         out.println("<th>Words</th>");
61         out.println("<th>Counts</th>");
62         out.println("</tr>");
63         // code above to print header
64
65     }
66
67     public static void outPutFooter(SimpleWriter out) {
68         out.println("</table>");
69         out.println("</body>");
70         out.println("</html>");
71         // code above to print footer
72
73     }
74
75     public static void buildMap(Map<String, Integer> comb, SimpleReader in) {
76
77         while (!in.atEOS()) {
78             String line = " " + in.nextLine().replaceAll("\\p{Punct}", " ");
79             // code above to remove all punctuation from line.
80             String[] words = line.split(" ");
81             // code above to split line to single word based on " ".
82             for (String x : words) {
83                 if (!comb.containsKey(x)) {
84                     comb.add(x, 1);
85                 } else {
86                     comb.replaceValue(x, comb.value(x) + 1);
87                 }
88                 // code above to add word to map if the word not exist in map.
89                 // if the word is already exist in map, count +1;
90             }
91         }
92         comb.remove("");
93         // code above to remove empty.
94     }
95
96     private static class stringCompare implements Comparator<String> {
97         @Override
98         public int compare(String o1, String o2) {
99             return o1.compareToIgnoreCase(o2);
100         }
101         // code above to make strings's order in Alphabetic order.
102     }
103
104     public static void bodyPart(Map<String, Integer> comb, SimpleWriter out) {
105         for (Map.Pair<String, Integer> x : comb) {
106             out.println("<tr>");
107             out.println("<td>" + x.key() + "</td>");
108             out.println("<td>" + x.value() + "</td>");
109             out.println("</tr>");
110         }
111         // code above to print body part.
112
113     }
114
115 }
116
```