

```

1  import components.queue.Queue;
2  import components.queue.Queue1L;
3  import components.simplereader.SimpleReader;
4  import components.simplereader.SimpleReader1L;
5  import components.simplewriter.SimpleWriter;
6  import components.simplewriter.SimpleWriter1L;
7
8  /**
9   * Put a short phrase describing the program here.
10  *
11  * @author Put your name here
12  *
13  */
14  public final class NextWordSeperator {
15
16      /**
17       * Definition of whitespace separators.
18       */
19      private static final String SEPARATORS = " \t\n\r";
20
21      /**
22       * Token to mark the end of the input. This token cannot come from the input
23       * stream because it contains whitespace.
24       */
25      public static final String END_OF_INPUT = "### END OF INPUT ###";
26
27      /**
28       * Private constructor so this utility class cannot be instantiated.
29       */
30      private NextWordSeperator() {
31      }
32
33      /**
34       * Returns the first "word" (maximal length string of characters not in
35       * {@code SEPARATORS}) or "separator string" (maximal length string of
36       * characters in {@code SEPARATORS}) in the given {@code text} starting at
37       * the given {@code position}.
38       *
39       * @param text
40       *         the {@code String} from which to get the word or separator
41       *         string
42       * @param position
43       *         the starting index
44       * @return the first word or separator string found in {@code text} starting
45       *         at index {@code position}
46       * @requires 0 <= position < |text|
47       * @ensures <pre>
48       * nextWordOrSeparator =
49       *   text[position, position + |nextWordOrSeparator|) and
50       *   if entries(text[position, position + 1)) intersection entries(SEPARATORS) = {}
51       * then
52       *   entries(nextWordOrSeparator) intersection entries(SEPARATORS) = {} and
53       *   (position + |nextWordOrSeparator| = |text| or
54       *   entries(text[position, position + |nextWordOrSeparator| + 1))
55       *   intersection entries(SEPARATORS) /= {})
56       * else
57       *   entries(nextWordOrSeparator) is subset of entries(SEPARATORS) and
58       *   (position + |nextWordOrSeparator| = |text| or
59       *   entries(text[position, position + |nextWordOrSeparator| + 1))
60       *   is not subset of entries(SEPARATORS))
61       * </pre>
62       */
63      private static String nextWordOrSeparator(String text, int position) {
64          String output = "";
65          char c = text.charAt(position);
66          int i = 0;
67          boolean check = true;
68          while (i < SEPARATORS.length() && check) {
69              if (c == SEPARATORS.charAt(i)) {

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70         check = false;
71     }
72     i++;
73 }
74 output = c + output;
75 i = 1;
76 int u = 0;
77 while (check) {
78     c = text.charAt(position + i);
79     while (u < SEPARATORS.length() && check) {
80         if (c == SEPARATORS.charAt(i)) {
81             check = false;
82         }
83         u++;
84     }
85     i++;
86     output = c + output;
87 }
88 return output;
89 }
90
91 /**
92  * Tokenizes the entire input getting rid of all whitespace separators and
93  * returning the non-separator tokens in a {@code Queue<String>}.
94  *
95  * @param in
96  *         the input stream
97  * @return the queue of tokens
98  * @updates in.content
99  * @requires in.is_open
100  * @ensures <pre>
101  *         [the non-whitespace tokens in #in.content] * <END_OF_INPUT>  and
102  *         in.content = <>
103  * </pre>
104  */
105
106 public static Queue<String> tokens(SimpleReader in) {
107     Queue<String> words = new Queue1L<>();
108     while (!in.atEOS()) {
109         int pos = 0;
110         words.enqueue(nextWordOrSeparator(in.nextLine(), pos));
111     }
112     words.enqueue(END_OF_INPUT);
113     return words;
114 }
115
116 /**
117  * Main method.
118  *
119  * @param args
120  *         the command line arguments
121  */
122 public static void main(String[] args) {
123     SimpleReader in = new SimpleReader1L();
124     SimpleWriter out = new SimpleWriter1L();
125     in.close();
126     out.close();
127 }
128
129 }
130

```