

```

1 package proj5;
2
3 /**
4  * class for computing word frequencies from a text
   file
5  * author: Son Nguyen (Kyrie)
6  * version: 6/3/2020
7  */
8 public class WordCounter {
9
10     // instance variables
11     private LineReader paragraph;
12     private String[] currentLine;
13     private BinarySearchTree<Counter> myWordCounter;
14
15     /**
16      * Default constructor
17      */
18     public WordCounter() {
19         paragraph = null;
20         currentLine = null;
21         myWordCounter = new BinarySearchTree<Counter
22     >();
23     }
24
25     /**
26      * helper method to slice a word including
   punctuation to its content only
27      * @param word
28      * @return word's content
29      */
30     private String splitWord(String word) {
31         String toReturn = word;
32         char firstChar = word.charAt(0);
33         if (!Character.isLetter(firstChar)) {
34             if (toReturn.length() == 1) {
35                 return "";
36             }
37             toReturn = toReturn.substring(1);
38         }
39         int lastChar = word.charAt(word.length() - 1
40     );
41         if (!Character.isLetter(lastChar)) {

```

```

41         if (toReturn.length() == 1) {
42             return "";
43         }
44         toReturn = toReturn.substring(0, toReturn
.length() - 1);
45     }
46     return toReturn;
47 }
48
49 /**
50  * Computes frequency of each word in given file
51  * @param file path to file, such as "src/input.
txt"
52  */
53 public void findFrequencies(String file) {
54     paragraph = new LineReader(file, " ");
55     currentLine = paragraph.getNextLine();
56     myWordCounter = new BinarySearchTree<Counter
>();
57     while (currentLine != null) {
58         for (String rawWord: currentLine) {
59             String currentWord = splitWord(
rawWord.toLowerCase());
60             if (currentWord != "") {
61                 Counter current = new Counter(
currentWord);
62                 Counter counterpart =
myWordCounter.search(current);
63                 if (counterpart == null) {
64                     counterpart = current;
65                     myWordCounter.insert(
counterpart);
66                 }
67                 counterpart.increment();
68             }
69         }
70         currentLine = paragraph.getNextLine();
71     }
72     paragraph.close();
73 }
74
75 /**
76  * returns the frequency of the given word
77  * @param word word - string to get the frequency

```

```
77  of
78      * @return the number of times word appears in
    the input file
79      */
80      public int getFrequency(String word) {
81          Counter toReturn = new Counter(word);
82          Counter counterpart = myWordCounter.search(
    toReturn);
83          if (counterpart != null) {
84              return counterpart.getCount();
85          }
86          return 0;
87      }
88
89      /**
90      * @return words and their frequencies as a
    printable String.
91      * Each word/frequency pair should be on a
    separate line,
92      * and the format of each line should be <word>
    : <frequency>
93      * For example,
94      * are: 3
95      * bacon: 2
96      *
97      * Words should be in alphabetical order.
98      */
99      public String toString() {
100          return myWordCounter.toString();
101      }
102 }
103
```