

```
1 import components.map.Map;
2 import components.naturalnumber.NaturalNumber;
3 import components.naturalnumber.NaturalNumber2;
4 import components.simplereader.SimpleReader;
5 import components.simplewriter.SimpleWriter;
6 import components.simplewriter.SimpleWriter1L;
7
8 /**
9  * Simple HelloWorld program (clear of Checkstyle and
10  * FindBugs warnings).
11  * @author Sam Espanioly
12  */
13 public final class HelloWorldMaps {
14
15     /**
16      * Default constructor--private to prevent
17      * instantiation.
18      */
19     private HelloWorldMaps() {
20         // no code needed here
21     }
22
23     /**
24      * Inputs a "menu" of words (items) and their prices
25      * from the given file and
26      * stores them in the given {@code Map}.
27      *
28      * @param fileName
29      *           the name of the input file
30      * @param priceMap
31      *           the word -> price map
32      * @replaces priceMap
33      * @requires <pre>
```

```
32     * [file named fileName exists but is not open, and
    has the
33     * format of one "word" (unique in the file) and one
    price (in cents)
34     * per line, with word and price separated by ',';
    the "word" may
35     * contain whitespace but no ',']
36     * </pre>
37     * @ensures [priceMap contains word -> price mapping
    from file fileName]
38     */
39     private static void getPriceMap(String fileName,
40                                     Map<String, Integer> priceMap) {
41         int len = fileName.length();
42         int i = 0;
43         int w = 0;
44         int t = -1;
45         String temp = "";
46         String key = "";
47         int value = 0;
48         while (i < len) {
49             if (fileName.charAt(i) == ',' && t < 0) {
50                 // the key for the map
51                 key = fileName.substring(w, i);
52                 //switching assuming there's a price or a
    value after every key
53                 t = t * t;
54             }
55             if (fileName.charAt(i) == ',' && t > 0) {
56                 // putting the value in a string
57                 temp = fileName.substring(w, i);
58                 // converting to int
59                 value = Integer.parseInt(temp);
60                 t = t * t;
```

```
61          // adding both key and value. This works
        only if we assume
62          // the value comes after the key every
        time
63          priceMap.add(key, value);
64      }
65
66      i++;
67  }
68 }
69
70 /**
71  * Input one pizza order and compute and return the
    total price.
72  *
73  * @param input
74  *      the input stream
75  * @param sizePriceMap
76  *      the size -> price map
77  * @param toppingPriceMap
78  *      the topping -> price map
79  * @return the total price (in cents)
80  * @updates input
81  * @requires <pre>
82  *   input.is_open and
83  *   [input.content begins with a pizza order consisting
    of a size
84  *   (something defined in sizePriceMap) on the first
    line, followed
85  *   by zero or more toppings (something defined in
    toppingPriceMap)
86  *   each on a separate line, followed by an empty
    line]
87  * </pre>
```

```
88     * @ensures <pre>
89     * input.is_open and
90     * #input.content = [one pizza order (as described
91     *                     in the requires clause)] *
    input.content and
92     * getOneOrder = [total price (in cents) of that pizza
    order]
93     * </pre>
94     */
95     private static int getOneOrder(SimpleReader input,
96                                     // what's the point of this Map?
97                                     Map<String, Integer> sizePriceMap,
98                                     Map<String, Integer> toppingPriceMap) {
99         SimpleWriter out = new SimpleWriter1L();
100         int total = 0;
101         out.print("Enter the topping you would like to
    add: ");
102         String t = input.nextLine();
103         //while loop in case user inputted wrong topping
104         while (!toppingPriceMap.containsKey(t)) {
105             out.print("Enter a correct topping you would
    like to add: ");
106             t = input.nextLine();
107         }
108         int temp = 0;
109         // final price
110         NaturalNumber price = new NaturalNumber2();
111         // temporary value to find the value in the map
    for the certain key
112         NaturalNumber temp1 = new
    NaturalNumber2(toppingPriceMap.value(t));
113         // this is why recursive can work in here
114         price.add(temp1);
115         // in case they want to add more
```

```
116         out.print("Would you like to add more? y/n");
117         t = input.nextLine();
118         // I was trying to do recursive method here
119         if (t.equals("yes") || t.equals("y")) {
120             getOneOrder(input, sizePriceMap,
121 toppingPriceMap);
122         }
123         // converting to an int
124         if (price.canConvertToInt()) {
125             total = price.toInt();
126             if (t.equals("no") || t.equals("n")) {
127                 out.println("Your total for topping is " +
total
+ " Thank you! Please come
again.");
128             }
129         }
130         return total;
131     }
132
133     /**
134      * Main method.
135      *
136      * @param args
137      *         the command line arguments; unused here
138      */
139     public static void main(String[] args) {
140         SimpleWriter out = new SimpleWriter1L();
141         out.println("Hello World!");
142         out.close();
143     }
144
145 }
146
```