

```
1  import java.util.*;
2
3  public class Alphabetizer{
4      /**
5       * Adds a new item as the last item in an of an array, preserving
6       * location of earlier items.
7       * Precondition: new_item is a string, an_array is an array of strings.
8       * Post condition: an_array includes new_item as its final item
9
10     */
11     public static void append(String new_item, String[] an_array){
12         // to be implemented
13     }
14
15     /**
16     * Adds a new item at index i within an array, preserving
17     * order of earlier and later items.
18     * Precondition: new_item is a string, an_array is an array of strings.
19     * Post condition: an_array includes new_item at index i
20
21     */
22     public static void insert(int i, String new_item, String[] an_array){
23         // to be implemented
24     }
25
26
27     /**
28     * Takes in a string and an alphabetized array, adds the string in the correct location
29     * so as to preserve the ordering.
30     * Precondition: new_item is a string, list_ordered is an alphabetized array or strings.
31     * Postcondition: list_ordered now includes new_item, remains alphabetized
32     */
33     public static void add_ordered(String new_item, String[] ordered_list){
34         int length = ordered_list.length;
35         if (new_item.compareTo(ordered_list[length-1]) > 0){
36             // in case new item comes after final item in ordered_list
37             append(new_item, ordered_list);
38         } else{
39             //traverses array; when an item is found that's higher in the alphaet than new item
40             for (int i = 0; i < length; i++){
41                 if (new_item.compareTo(ordered_list[i]) < 0){
42                     insert(i, new_item, ordered_list);
43                     break;
44                 }
45             }
46         }
47     }
48 }
```