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<https://codeshare.io/eV6WYA>

```

1 package aal;
2 import java.util.ArrayList;
3 import java.util.Scanner;
4 public class aal {
5
6     public static void main(String[] args) {
7         // TODO Auto-generated method stub
8         ArrayList<String> names = new ArrayList<String>();
9         Scanner scanner = new Scanner(System.in);
10        String name;
11
12        while (true) {
13            System.out.println("Enter a name to add to the list (or 'q' to quit):");
14            name = scanner.nextLine();
15
16            if (name.equals("q")) {
17                break;
18            }
19
20            names.add(name);
21            System.out.println("Added " + name + " to the list.\nCurrent list: " + names);
22        }
23
24        while (true) {
25            System.out.println("Enter a name to remove from the list (or 'q' to quit):");
26            name = scanner.nextLine();
27
28            if (name.equals("q")) {
29                break;
30            }
31
32            names.remove(name);
33            System.out.println("Removed " + name + " from the list.\nCurrent list: " + names);
34        }
35    }
36 }

```

Problems Javadoc Declaration Console ×

```

terminated> aa1 [Java Application] C:\Users\jainroh\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.6.v20230718
Enter a name to add to the list (or 'q' to quit):
rohan
Added rohan to the list.
Current list: [rohan]
Enter a name to add to the list (or 'q' to quit):
jain

```

2) Create a program that uses a HashMap to store a dictionary of words and their meanings. The program should allow the user to add new words and meanings, and should display the meaning of a word when the user enters the word.

<https://codeshare.io/RbveZ3>

```
18         if (word.equals("quit")) {
19             break;
20         }
21
22         String meaning = dictionary.get(word);
23         if (meaning == null) {
24             System.out.println("Sorry, that word is not in the dictionary.");
25         } else {
26             System.out.println(word + ": " + meaning);
27         }
28     }
29
30     // Allow the user to add new words and meanings to the dictionary
31     while (true) {
32         System.out.print("Enter a word to add (or 'quit' to exit): ");
33         String word = scanner.nextLine();
34         if (word.equals("quit")) {
35             break;
36         }
37
38         System.out.print("Enter the meaning of '" + word + "': ");
39         String meaning = scanner.nextLine();
40         dictionary.put(word, meaning);
41         System.out.println("Added '" + word + "' to the dictionary.");
42     }
43 }
```

Problems Javadoc Declaration Console ×

a62 [Java Application] C:\Users\jainroh\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.6.v20230204-1
Sorry, that word is not in the dictionary.
Enter a word (or 'quit' to exit): man
Sorry, that word is not in the dictionary.
Enter a word (or 'quit' to exit): apple
apple: a round fruit with red or green skin and a white inside
Enter a word (or 'quit' to exit):

3) Create a program that uses a TreeSet to store a list of integers. The program should allow the user to add and remove integers from the set, and should display the current set of integers after each modification.

<https://codeshare.io/km8qqM>

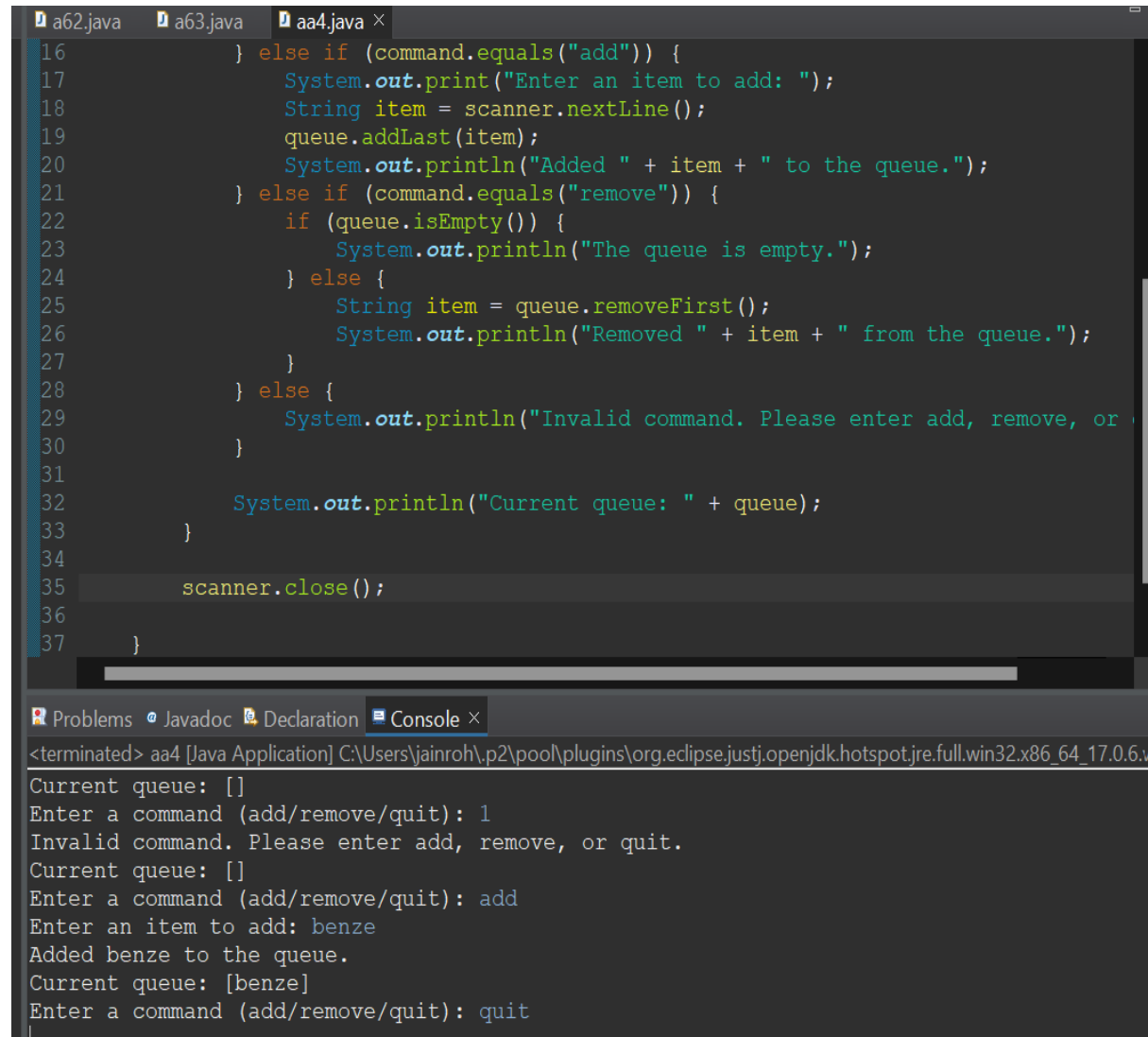
```
8
9 Scanner scanner = new Scanner(System.in);
10 while (true) {
11     System.out.print("Enter an integer to add/remove (or 'quit' to exit): ");
12     String input = scanner.nextLine();
13     if (input.equals("quit")) {
14         break;
15     }
16
17     try {
18         int value = Integer.parseInt(input);
19         if (integerSet.contains(value)) {
20             integerSet.remove(value);
21             System.out.println("Removed " + value + " from the set.");
22         } else {
23             integerSet.add(value);
24             System.out.println("Added " + value + " to the set.");
25         }
26         System.out.println("Current set: " + integerSet);
27     } catch (NumberFormatException e) {
28         System.out.println("Invalid input. Please enter an integer.");
29     }
30 }
```

Problems Javadoc Declaration Console ×

a63 [Java Application] C:\Users\jainroh\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.6.v20230204-1729\jre\bin\jav
Enter an integer to add/remove (or 'quit' to exit):
Invalid input. Please enter an integer.
Enter an integer to add/remove (or 'quit' to exit): 1
Added 1 to the set.
Current set: [1, 2, 12]
Enter an integer to add/remove (or 'quit' to exit): 2
Removed 2 from the set.
Current set: [1, 12]
Enter an integer to add/remove (or 'quit' to exit):

4) Create a program that uses a LinkedList to implement a queue. The program should allow the user to add and remove items from the queue, and should display the current contents of the queue after each modification.

<https://codeshare.io/0qveeD>



```
16         } else if (command.equals("add")) {
17             System.out.print("Enter an item to add: ");
18             String item = scanner.nextLine();
19             queue.addLast(item);
20             System.out.println("Added " + item + " to the queue.");
21         } else if (command.equals("remove")) {
22             if (queue.isEmpty()) {
23                 System.out.println("The queue is empty.");
24             } else {
25                 String item = queue.removeFirst();
26                 System.out.println("Removed " + item + " from the queue.");
27             }
28         } else {
29             System.out.println("Invalid command. Please enter add, remove, or quit.");
30         }
31
32         System.out.println("Current queue: " + queue);
33     }
34
35     scanner.close();
36
37 }
```

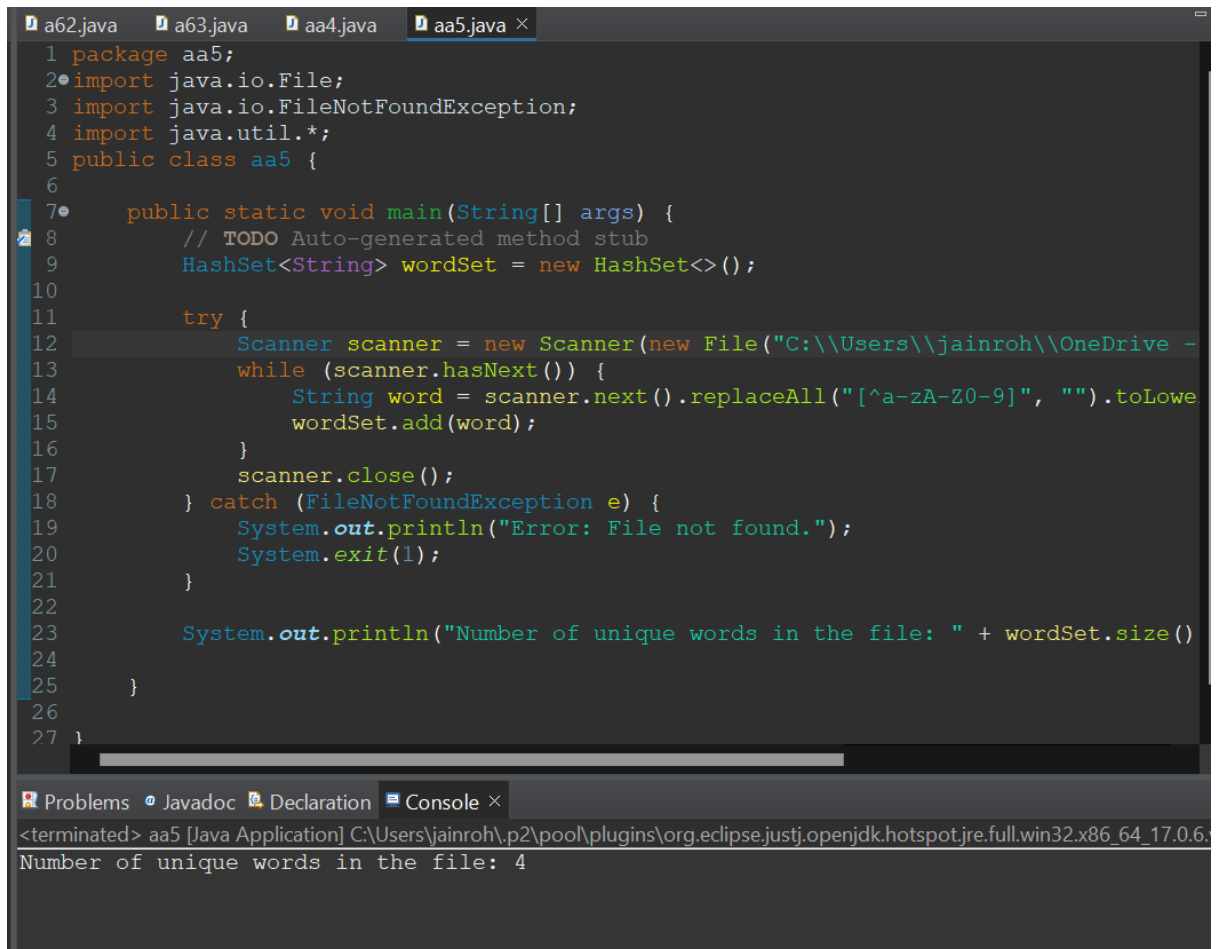
Problems Javadoc Declaration Console ×

<terminated> aa4 [Java Application] C:\Users\jainroh\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.6.v

Current queue: []
Enter a command (add/remove/quit): 1
Invalid command. Please enter add, remove, or quit.
Current queue: []
Enter a command (add/remove/quit): add
Enter an item to add: benze
Added benze to the queue.
Current queue: [benze]
Enter a command (add/remove/quit): quit

5) Create a program that uses a HashSet to store a set of strings. The program should read in a text file, and should add each word in the file to the set of strings. After all words have been added, the program should display the number of unique words in the file.

<https://codeshare.io/IonJyR>



The screenshot shows the Eclipse IDE with a Java project. The editor displays the source code for `aa5.java`. The code uses a `Scanner` to read a file, a `HashSet` to store unique words, and a `try-catch` block to handle `FileNotFoundException`. The console output shows the program successfully counted 4 unique words.

```
1 package aa5;
2 import java.io.File;
3 import java.io.FileNotFoundException;
4 import java.util.*;
5 public class aa5 {
6
7     public static void main(String[] args) {
8         // TODO Auto-generated method stub
9         HashSet<String> wordSet = new HashSet<>();
10
11         try {
12             Scanner scanner = new Scanner(new File("C:\\Users\\jainroh\\OneDrive -
13             while (scanner.hasNext()) {
14                 String word = scanner.next().replaceAll("[^a-zA-Z0-9]", "").toLowerCase();
15                 wordSet.add(word);
16             }
17             scanner.close();
18         } catch (FileNotFoundException e) {
19             System.out.println("Error: File not found.");
20             System.exit(1);
21         }
22
23         System.out.println("Number of unique words in the file: " + wordSet.size());
24     }
25 }
26
27 }
```

Problems Javadoc Declaration Console ×

<terminated> aa5 [Java Application] C:\Users\jainroh\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.6.
Number of unique words in the file: 4