1.Create a program that uses an ArrayList to store a list of names. The program should allow the user to add and remove names from the list, and should display the current list of names after each modification
https://codeshare.io/1Y8KJm

arraylist.java ×

```java
1 package assignment6;
2 import java.util.ArrayList;
3 import java.util.Scanner;
4 public class arraylist {
5     public static void main(String[]args) {
6         ArrayList<String> names = new ArrayList<String>();
7         names.add("Jimmy");
8         names.add("Charlie");
9         names.add("Ron");
10
11             System.out.println(names);
12
13         Scanner in= new Scanner(System.in);
14
15         while (true) {
16             System.out.println("Enter a command: add, remove, or quit");
17             String command = in.nextLine();
18
19             if (command.equals("add")) {
20                 System.out.println("Enter a name:");
21                 String name =in.nextLine();
22                 names.add(name);
23                 System.out.println(names);
24                         } else if (command.equals("remove")) {
25                 System.out.println("Enter the index of the name to remove:");
26                 int index = in.nextInt();
27             in.nextLine();
28             if (index >= 0 && index < names.size()) {
29                 String removedName = names.remove(index);
30                         System.out.println(names);
31             } else {
32                 System.out.println("Invalid index.");
```

arraylist.java ×

```java
33             }
34             } else if (command.equals("quit")) {
35                 break;
36             } else {
37                 System.out.println("Invalid command.");
38             }
39         }
40     }
41 }
```

Problems @ Javadoc Declaration Console ×

<terminated> arraylist [Java Application] C:\Users\Mahadra\jdk-19\bin\javaw.exe (01-Mar-2023, 7:21:45 am –
```
[Jimmy, Charlie, Ron]
Enter a command: add, remove, or quit
add
Enter a name:
tom
[Jimmy, Charlie, Ron, tom]
Enter a command: add, remove, or quit
remove
Enter the index of the name to remove:
3
[Jimmy, Charlie, Ron]
Enter a command: add, remove, or quit
quit
```

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/lonJXR

```java
 1 package assignment6;
 2
 3 import java.util.HashMap;
 4 import java.util.Scanner;
 5
 6 public class hashmap {
 7     public static void main(String[]args) {
 8         HashMap<String, String> dictionary = new HashMap<String, String>();
 9         Scanner in = new Scanner(System.in);
10
11         while (true) {
12             System.out.println("Enter a command: add,search or quit");
13             String command = in.nextLine();
14
15             if (command.equals("add")) {
16                 System.out.println("Enter a word:");
17                 String word =in.nextLine();
18                 System.out.println("Enter the meaning of the word:");
19                 String meaning = in.nextLine();
20                 dictionary.put(word, meaning);
21                 System.out.println(word + " has been added to the dictionary");
22             } else if (command.equals("search")) {
23                 System.out.println("Enter a word to search:");
24                 String word = in.nextLine();
25                 String meaning = dictionary.get(word);
26                 if (meaning != null) {
27                     System.out.println(word + ": " + meaning);
28                 } else {
29                     System.out.println("Word not found in dictionary");
30                 }
31             } else if (command.equals("quit")) {
32                 break;
33             } else {
34                 System.out.println("Invalid command");
35             }
36         }
37
38     }
```

🔲 Problems @ Javadoc 🔍 Declaration 🖥 Console ✕

<terminated> hashmap [Java Application] C:\Users\Mahadra\jdk-19\bin\javaw.exe (01-Mar-2023, 7

```
Enter a command: add,search or quit
add
Enter a word:
apple
Enter the meaning of the word:
a fruit that is round and red or green in color
apple has been added to the dictionary
Enter a command: add,search or quit
add
Enter a word:
orange
Enter the meaning of the word:
a fruit that is round and orange in color
orange has been added to the dictionary
Enter a command: add,search or quit
search
Enter a word to search:
apple
apple: a fruit that is round and red or green in color
Enter a command: add,search or quit
search
Enter a word to search:
banana
Word not found in dictionary
Enter a command: add,search or quit
quit
```

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

treeset.java ×

```java
1 package assignment6;
2 import java.util.Scanner;
3 import java.util.TreeSet;
4 public class treeset {
5
6     public static void main(String[] args) {
7         // TODO Auto-generated method stub
8
9         TreeSet<Integer> set = new TreeSet<Integer>();
10        Scanner in = new Scanner(System.in);
11        System.out.println("Current set: " + set);
12
13        while (true) {
14            System.out.println("Enter a command: add, remove, or quit");
15            String command = in.nextLine();
16
17            if (command.equals("add")) {
18                System.out.println("Enter an integer:");
19                int num = in.nextInt();
20                in.nextLine();
21                set.add(num);
22                System.out.println("Current set: " + set);
23            } else if (command.equals("remove")) {
24                System.out.println("Enter an integer to remove:");
25                int num = in.nextInt();
26                in.nextLine();
27                if (set.remove(num)) {
28                    System.out.println("Current set: " + set);
29                } else {
30                    System.out.println(num + " is not in the set.");
31                }
32            } else if (command.equals("quit")) {
```

treeset.java ×

```java
33                break;
34            } else {
35                System.out.println("Invalid command.");
36            }
37
38        }
39    }
40 }
```

Problems @ Javadoc Declaration ▣ Console ×

```
<terminated> treeset [Java Application] C:\Users\Mahadra\jdk-19\bin\javaw.exe (01-Mar-2023, 10:20:41
Current set: []
Enter a command: add, remove, or quit
add
Enter an integer:
23
Current set: [23]
Enter a command: add, remove, or quit
add
Enter an integer:
45
Current set: [23, 45]
Enter a command: add, remove, or quit
remove
Enter an integer to remove:
34
34 is not in the set.
Enter a command: add, remove, or quit
remove
Enter an integer to remove:
23
Current set: [45]
Enter a command: add, remove, or quit
quit
```

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/PdE0DE

```java
*queue.java ×
 1 package assignment6;
 2 import java.util.LinkedList;
 3 import java.util.Queue;
 4 import java.util.Scanner;
 5 public class queue {
 6
 7     public static void main(String[] args) {
 8         // TODO Auto-generated method stub
 9         Queue<String> queue = new LinkedList<>();
10         Scanner in= new Scanner(System.in);
11         queue.add("tom");
12         queue.add("jimmy");
13         queue.add("charlie");
14         System.out.println("Current queue: " + queue);
15
16         while (true) {
17             System.out.println("Enter a command: add, remove, or quit");
18             String command = in.nextLine();
19
20             if (command.equals("add")) {
21                 System.out.println("Enter an item to add to the queue:");
22                 String item = in.nextLine();
23                 queue.add(item);
24                 System.out.println("Current queue: " + queue);
25             } else if (command.equals("remove")) {
26                 if (queue.isEmpty()) {
27                     System.out.println("Queue is empty.");
28                 } else {
29                     String item = queue.remove();
30                     System.out.println("Current queue: " + queue);
31                 }
32             } else if (command.equals("quit")) {
```

```java
*queue.java ×
33                 break;
34             } else {
35                 System.out.println("Invalid command.");
36             }
37         }
38     }
39 }
```

Problems @ Javadoc Declaration Console ×

<terminated> queue [Java Application] C:\Users\Mahadra\jdk-19\bin\javaw.exe (01-Mar-2023, 10:38:38 a

```
Current queue: [tom, jimmy, charlie]
Enter a command: add, remove, or quit
add
Enter an item to add to the queue:
ruby
Current queue: [tom, jimmy, charlie, ruby]
Enter a command: add, remove, or quit
remove
Current queue: [jimmy, charlie, ruby]
Enter a command: add, remove, or 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/qPmrLR

```java
package assignment6;
import java.util.HashSet;
import java.util.Set;
public class hashsetprogram {

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        Set<String> mySet = new HashSet<>();
        mySet.add("apple");
        mySet.add("banana");
        mySet.add("orange");
        boolean hasApple = mySet.contains("apple");
        boolean hasGrape = mySet.contains("grape");
        mySet.remove("banana");
        int size = mySet.size();
        for (String element : mySet) {
            System.out.println(element);
        }
    }
}
```

Problems @ Javadoc Declaration Console ✕
<terminated> hashsetprogram [Java Application] C:\Users\Mahadra\jdk-19\bin\javaw.
orange
apple