

1. Problem statement: Write a program to build any collection containing duplicates. Create its copy with all duplicates removed

2. code with comments:

```
import java.io.*;
```

```
import java.lang.*;
```

```
import java.util.Arrays;
```

```
import org.slf4j.Logger;
```

```
import org.slf4j.LoggerFactory;
```

```
/*
```

```
 * Java program to remove duplicates from this array. You don't
```

```
 * Duplicate duplicate elements, replaced with null, or empty or default value
```

```
 */
```

```
public class TechnicalInterviewTest {
```

```
    private static final java.util.logging.Logger logger =  
    LoggerFactory.getLogger(TechnicalInterviewTest.class);
```

```
    public static void main(String args[]) {
```

```
        int[][] test = new int[][]{
```

```
            {1, 1, 2, 2, 3, 4, 5},
```

```
            {1, 1, 1, 1, 1, 1, 1},
```

```
            {1, 2, 3, 4, 5, 6, 7},
```

```
            {1, 2, 1, 1, 1, 1, 1}};
```

```
        for (int[] input : test) {
```

```
            System.out.println("Array with Duplicates    : " + Arrays.toString(input));
```

```
            System.out.println("After removing duplicates : " + Arrays.toString(removeDuplicates(input)));
```

```

    }
}

/*
 * Method to remove duplicates from array in Java, without using
 * Collection classes e.g. Set or ArrayList. Algorithm for this
 * method is simple, it first sort the array and then compare adjacent
 * objects, leaving out duplicates, which is already in the result.
 */
public static int[] removeDuplicates(int[] numbersWithDuplicates) {

    // Sorting array to bring duplicates together
    Arrays.sort(numbersWithDuplicates);

    int[] result = new int[numbersWithDuplicates.length];
    int previous = numbersWithDuplicates[0];
    result[0] = previous;

    for (int i = 1; i < numbersWithDuplicates.length; i++) {
        int ch = numbersWithDuplicates[i];

        if (previous != ch) {
            result[i] = ch;
        }
        previous = ch;
    }
    return result;
}

```

```
}
```

3. Explanation of the code:

Java program to remove duplicates from this array. You don't duplicate elements, replaced with null, or empty or default value

Method to remove duplicates from array in Java is simple, first sort the array and then compare adjacent objects, leaving out duplicates, which is already in the result.

Sorting array to bring duplicates together

4. Result flow in detail:

Java program to remove duplicates from this array. You don't duplicate elements, replaced with null, or empty or default value

Method to remove duplicates from array in Java is simple, first sort the array and then compare adjacent objects, leaving out duplicates, which is already in the result.

Sorting array to bring duplicates together

5. Output screenshot:

```
5  /*
6  * Java program to remove duplicates from this array. You don't
7  * Duplicate duplicate elements, replaced with null, or empty or default value
8  */
9  public class TechnicalInterviewTest {
10
11     private static final java.util.logging.Logger logger = LoggerFactory.getLogger(TechnicalInterviewTest.class);
12
13     public static void main(String args[]) {
14
15         int[][] test = new int[][]{
16             {1, 1, 2, 2, 3, 4, 5},
17             {1, 1, 1, 1, 1, 1, 1},
18             {1, 2, 3, 4, 5, 6, 7},
19             {1, 2, 1, 1, 1, 1, 1}};
20
21         for (int[] input : test) {
22             System.out.println("Array with Duplicates      : " + Arrays.toString(input));
23             System.out.println("After removing duplicates : " + Arrays.toString(removeDuplicates(input)));
24         }
25     }
26
27     /*
28     * Method to remove duplicates from array in Java, without using
29     * Collection classes e.g. Set or ArrayList. Algorithm for this
30     * method is simple, it first sort the array and then compare adjacent
31     * objects, leaving out duplicates, which is already in the result.
32     */
33 }
```

<terminated> TechnicalInterviewTest [Java Application] C:\Program Files\Java\jre1.8.0_121\bin\javaw.exe (27-Nov-2018, 12:05:52 AM)

```
Array with Duplicates      : [1, 2, 3, 4, 5, 6, 7]
After removing duplicates  : [1, 2, 3, 4, 5, 6, 7]
Array with Duplicates      : [1, 2, 1, 1, 1, 1, 1]
After removing duplicates  : [1, 0, 0, 0, 0, 0, 2]
```