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## Array & List Task

=====

Q1:

-----

Description : Write a Java program to sum values of an array

Input a[]= {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

Output = 55

Q2:

-----

Description : Write a Java program to calculate the average value of array elements.

Input a[]= {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

Output = average = 7.0

Q3:

-----

Description : Write a Java program to remove duplicates from array

Input a[]= {10,10,20,50,60,80,60,50}

Output a[]= {10,20,50,60,80}

Q4:

-----

Q4.1:

-----

Description : Create a new ArrayListlist with values and find the length of it

Input : List = 10,20,30,90,10,10,40,50

Q4.2:

-----

Description : Create a new LinkedListlist with values and find the length of it

Input : List = 100,200,300,400,500,600,700

Q5:

-----

Q5.1:

-----

Description : Get the first index value of 10

Input: List = 10,20,30,90

Q5.2:

-----

Description : Get the last index value of 10

Input: List = 10,20,30,90,10,10,40,50

Q5.3:

-----

Description : Get the each index value of 10 present in below list

Input: List = 10,20,30,90,10,10,40,50,10

Q6:

-----

Q6.1:

-----

Description : Get the value present at 2nd index  
Input: List = 10,20,30,40,50,60

Q6.2:

-----

Description : Get the value present at 4th index  
Input: List = 100,200,300,400,500,600,700

Q6.3:

-----

Description : Get the each value of list by using normal for loop  
Input: List = 105,205,305,405,505,605,705,805

Q6.4:

-----

Description : Get the each value of list by using enhanced for loop  
Input: List = 105,205,305,405,505,605,705,805

QUESTION 7:

-----

QUESTION 7.1:

-----

Description : Remove the value present at 2nd index  
Input: List = 10,20,30,40,50,60

QUESTION 7.2:

-----

Description : Remove the value present at 10th index  
Input: List = 10,20,30,90,10,10,40

QUESTION 8:

-----

Q8.1:

-----

Description : Add a value 50 in the 2nd index and display the list after adding.  
Input : List = 10,20,30,90,10,10,40,50

Q8.2:

-----

Description : Add a value 80 at the 8th index of list  
Input : List = 10,20,30,90,10,10,40,50

QUESTION 9:

-----

Q9.1:

-----

Description : Replace the value 300 into 350 in the list  
Input : List = 100,200,300,400,500,600,700

Q9.2:

-----

Description : Replace the 10 into 100 in List

Input: List = 10,20,30,90,10,10,40,50,30

Output: List = 100,20,30,90,100,100,40,50,30

Q10:

-----

Q10.1:

-----

Description : Create a new ArrayListlists with values and return the common values

Input : List = 10,20,30,90,10,10,40,50

Input : List = 30,40,50,60,80

Q10.2:

-----

Description : Create a new ArrayListlists with values and return the common values

Input : List = 10,20,30,40,50,60,70,80

Input : List = 100,200,300,400,500,600,700,8000

Q11:

-----

Q11.1:

-----

Description : Create a new ArrayListlists with values and perform removeAll() function

Input : List = 10,20,30,90,10,10,40,50

Input : List = 30,40,50,60,80

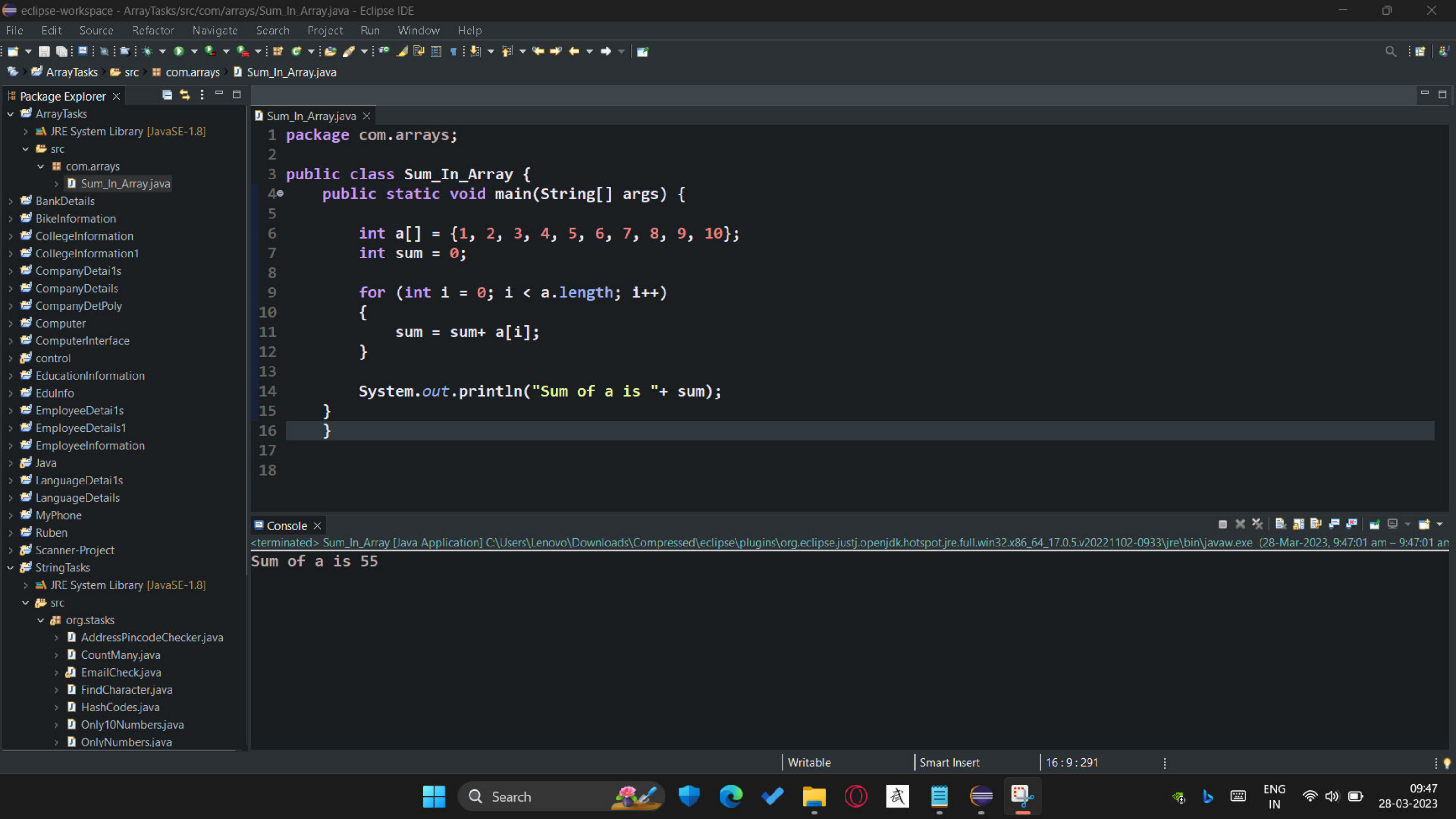
Q11.2:

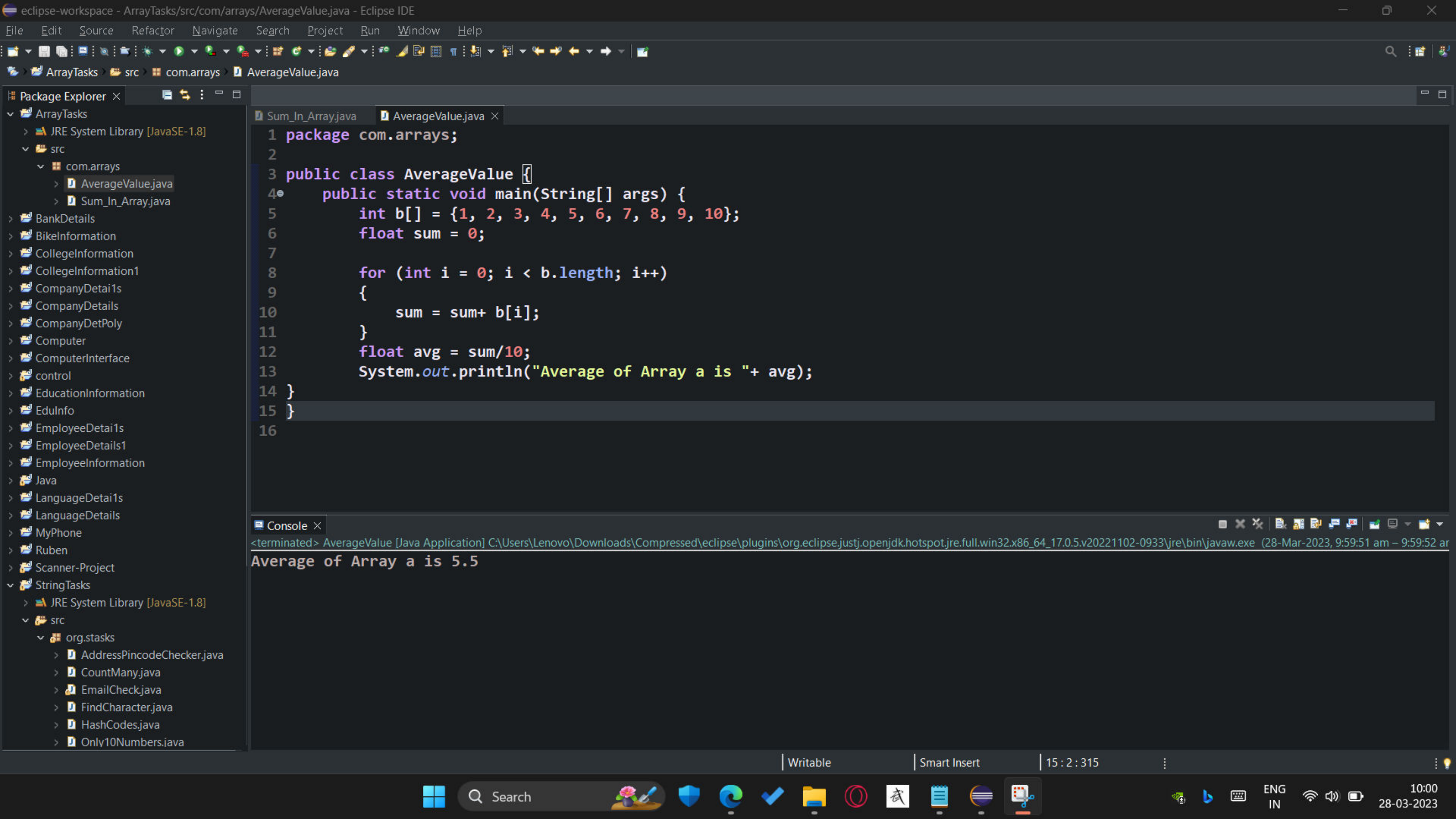
-----

Description : Create a new ArrayListlists with values and perform removeAll() function

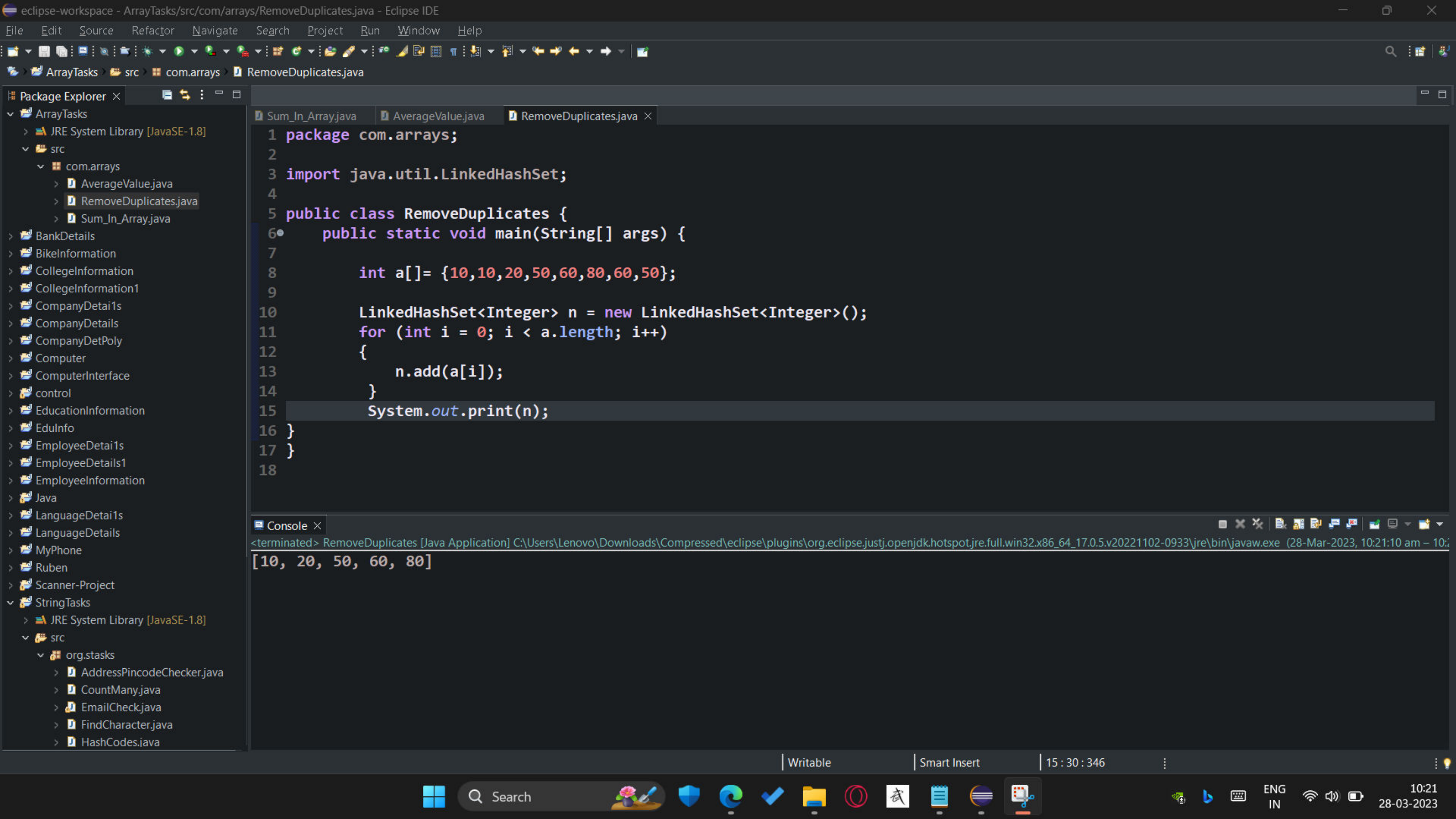
Input : List = 10,20,30,40,50,60,70,80

Input : List = 100,200,300,400,500,600,700,8000









eclipse-workspace - ArrayTasks/src/com/arrays/LinkedListlength.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

ArrayTasks > src > com.arrays > LinkedListlength.java

Package Explorer

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      - CountMany.java
      - EmailCheck.java
      - FindCharacter.java

Sum\_In\_Array.java AverageValue.java RemoveDuplicates.java LinkedListlength.java

```
1 package com.arrays;
2
3 import java.util.ArrayList;
4 import java.util.List;
5
6 public class LinkedListlength {
7     public static void main(String[] args) {
8         List L= new ArrayList();
9         L.add(10); L.add(20);
10        L.add(30); L.add(90);
11        L.add(10); L.add(10);
12        L.add(40); L.add(50);
13
14        System.out.println("Length of Array is: "+L.size());
15    }
16 }
17
```

Console

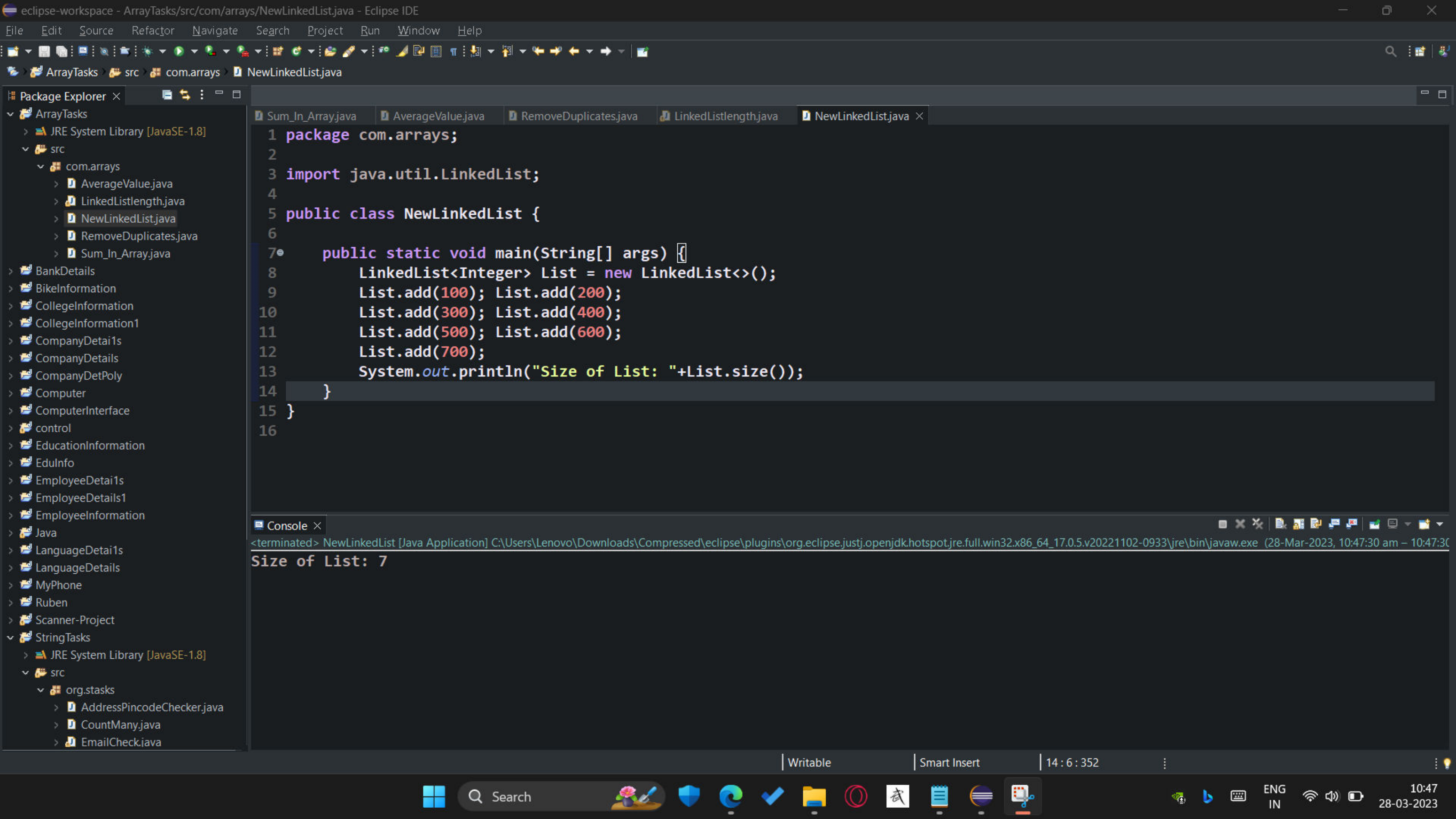
<terminated> LinkedListlength [Java Application] C:\Users\Lenovo\Downloads\Compressed\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86\_64\_17.0.5.v20221102-0933\jre\bin\javaw.exe (28-Mar-2023, 10:42:48 am - 10:42:48 am)

Length of Array is: 8

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10:43 28-03-2023





```
1 package com.arrays;
2
3 import java.util.LinkedList;
4
5 public class NewLinkedList {
6
7     public static void main(String[] args) {
8         LinkedList<Integer> List = new LinkedList<>();
9         List.add(100); List.add(200);
10        List.add(300); List.add(400);
11        List.add(500); List.add(600);
12        List.add(700);
13        System.out.println("Size of List: "+List.size());
14    }
15 }
16
```

Console

<terminated> NewLinkedList [Java Application] C:\Users\Lenovo\Downloads\Compressed\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86\_64\_17.0.5.v20221102-0933\jre\bin\javaw.exe (28-Mar-2023, 10:47:30 am – 10:47:30 am)  
Size of List: 7

eclipse-workspace - ArrayTasks/src/com/arrays/Task5.java - Eclipse IDE

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ArrayTasks > src > com.arrays > Task5.java

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  - src
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      - AddressPincodeChecker.java
      - CountMany.java

Sum\_In\_Array.java RemoveDuplicate LinkedListlength NewLinkedListj Task5.java x

```
1 package com.arrays;
2 import java.util.ArrayList;
3 import java.util.Collections;
4 import java.util.List;
5
6 public class Task5 {
7     public static void main(String[] args) {
8         //5.1 Task
9         ArrayList<Integer> l1 = new ArrayList<Integer>();
10        l1.add(10); l1.add(20); l1.add(30); l1.add(90);
11        int first = l1.indexOf(10);
12        System.out.println("First Index Value: " + first);
13        //5.2 Task
14        ArrayList<Integer> l2 = new ArrayList<>();
15        l2.add(10); l2.add(20); l2.add(30); l2.add(90);
16        l2.add(10); l2.add(10); l2.add(40); l2.add(50);
17        int last = l2.lastIndexOf(10);
18        System.out.println("Last Index value: " + last);
19        //5.3 Task
20        List<Integer> l3 = new ArrayList<>();
21        Collections.addAll(l3, 10, 20, 30, 90, 10, 10, 40, 50, 10);
22        System.out.println("Index value of 10 in list: ");
23        for (int i = 0; i < l3.size(); i++) {
24            if(l3.get(i) == 10)
25                System.out.print(" " + i);
26        }
27    }
28 }
29
```

Console

<terminated> Task5 [Java Application] C:\Users\Lenovo\Downloads\Compressed\eclipse\plugins\org.eclipse.justj.openj

First Index Value: 0  
Last Index value: 5  
Index value of 10 in list:  
0 4 5 8

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eclipse-workspace - ArrayTasks/src/com/arrays/Task6.java - Eclipse IDE

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ArrayTasks > src > com.arrays > Task6.java

Package Explorer

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  - src
    - org.stasks
      - AddressPincodeChecker.java

RemoveDuplicate LinkedListlength NewLinkedListj Task5.java Task6.java x 2

```
1 package com.arrays;
2
3 import java.util.Collections;
4 import java.util.LinkedList;
5 import java.util.List;
6
7 public class Task6 {
8 public static void main(String[] args) {
9
10 //Task 6.1
11     List<Integer> a = new LinkedList<>();
12     Collections.addAll(a, 10,20,30,40,50,60);
13     System.out.println("Value at 2nd Index is: "+a.get(2));
14 //Task 6.2
15     List<Integer> b = new LinkedList<>();
16     Collections.addAll(b, 100,200,300,400,500,600,700);
17     System.out.println("Value at 4th Index is: "+b.get(4));
18 //Task 6.3
19     List<Integer> c = new LinkedList<>();
20     Collections.addAll(c, 105,205,305,405,505,605,705,805);
21     for (int i = 0; i < c.size(); i++) {
22         int val = c.get(i);
23         System.out.printf("\nValue at %d is %d", i, val);}
24 //Task 6.4
25     System.out.println("\nUsing for each loop");
26     for (Integer f : c) {
27         System.out.println(f);
28     }
29
30
31 }}
32
```

Console

<terminated> Task6 [Java Application] C:\Users\Lenovo\Downloads\Compressed\eclipse\plugins\org.eclipse.ju

Value at 2nd Index is: 30  
Value at 4th Index is: 500

Value at 0 is 105  
Value at 1 is 205  
Value at 2 is 305  
Value at 3 is 405  
Value at 4 is 505  
Value at 5 is 605  
Value at 6 is 705  
Value at 7 is 805  
Using for each loop  
105  
205  
305  
405  
505  
605  
705  
805



Search



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28-03-2023



eclipse-workspace - ArrayTasks/src/com/arrays/RemoveIndex.java - Eclipse IDE

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ArrayTasks > src > com.arrays > RemoveIndex.java

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- Scanner-Project
- StringTasks
  - JRE System Library [JavaSE-1.8]
  - src
    - org.tasks

RemoveDuplicate LinkedListlength NewLinkedList.j Task5.java Task6.java RemoveIndex.jav x2

```
1 package com.arrays;
2
3 import java.util.ArrayList;
4 import java.util.Collections;
5 import java.util.List;
6
7 public class RemoveIndex {
8     public static void main(String[] args) {
9         //Task 7.1
10        List<Integer> a1 = new ArrayList<>();
11        Collections.addAll(a1, 10,20,30,40,50,60);
12        System.out.println("List 1 " + a1);
13        System.out.println("\nRemoving value present at 2nd index");
14        a1.remove(2);
15        System.out.println("\nNew List 1 "+a1);
16        //Task 7.2
17        List<Integer> a2 = new ArrayList<>();
18        Collections.addAll(a2, 10,20,30,40,50,60);
19        System.out.println("\nList 2 " + a1);
20        System.out.println("\nRemoving value present at 10th index");
21        try { a1.remove(10); } catch (IndexOutOfBoundsException e) {
22            System.out.println("\nList 2 only has 6 elements!");
23            System.exit(0);
24        }
25        System.out.println("\nNew List 2 "+a2);
26    }
27 }
28
```

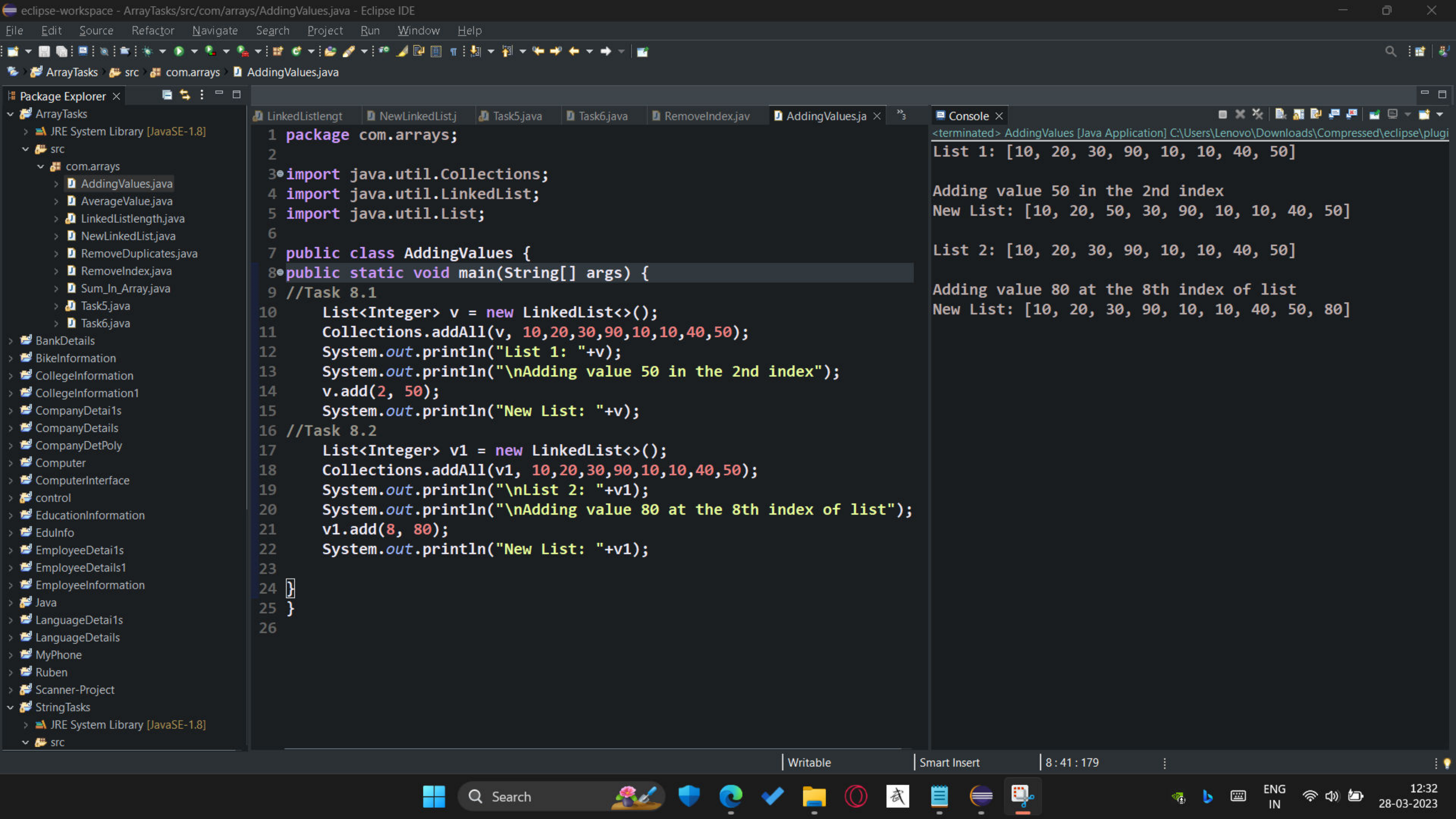
Console

<terminated> RemoveIndex [Java Application] C:\Users\Lenovo\Downloads\Compressed\eclipse\pl  
List 1 [10, 20, 30, 40, 50, 60]  
  
Removing value present at 2nd index  
  
New List 1 [10, 20, 40, 50, 60]  
  
List 2[10, 20, 40, 50, 60]  
  
Removing value present at 10th index  
  
List 2 only has 6 elements!

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```
1 package com.arrays;
2
3 import java.util.Collections;
4 import java.util.LinkedList;
5 import java.util.List;
6
7 public class AddingValues {
8 public static void main(String[] args) {
9 //Task 8.1
10 List<Integer> v = new LinkedList<>();
11 Collections.addAll(v, 10,20,30,90,10,10,40,50);
12 System.out.println("List 1: "+v);
13 System.out.println("\nAdding value 50 in the 2nd index");
14 v.add(2, 50);
15 System.out.println("New List: "+v);
16 //Task 8.2
17 List<Integer> v1 = new LinkedList<>();
18 Collections.addAll(v1, 10,20,30,90,10,10,40,50);
19 System.out.println("\nList 2: "+v1);
20 System.out.println("\nAdding value 80 at the 8th index of list");
21 v1.add(8, 80);
22 System.out.println("New List: "+v1);
23
24 }
25 }
26
```

List 1: [10, 20, 30, 90, 10, 10, 40, 50]

Adding value 50 in the 2nd index

New List: [10, 20, 50, 30, 90, 10, 10, 40, 50]

List 2: [10, 20, 30, 90, 10, 10, 40, 50]

Adding value 80 at the 8th index of list

New List: [10, 20, 30, 90, 10, 10, 40, 50, 80]



eclipse-workspace - ArrayTasks/src/com/arrays/ReplaceValues.java - Eclipse IDE

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ArrayTasks > src > com.arrays > ReplaceValues.java

Package Explorer

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Task5.java Task6.java RemoveIndex.jav AddingValues.ja ReplaceValues.j Console

```
1 package com.arrays;
2
3 import java.util.ArrayList;
4 import java.util.Arrays;
5 import java.util.Collections;
6 import java.util.List;
7
8 public class ReplaceValues {
9     public static void main(String[] args) {
10         //Task 9.1
11         List<Integer> list = new ArrayList<>
12             (Arrays.asList(100, 200, 300, 400, 500, 600, 700));
13
14         System.out.println("Original List: "+ list);
15         int index = list.indexOf(300);
16         list.set(index, 350);
17         System.out.println("Replaced List: "+ list);
18         //Task 9.2
19         List<Integer> cc = new ArrayList<>();
20         Collections.addAll(cc, 10,20,30,90,10,10,40,50,30);
21         System.out.println("Original List: "+ cc);
22         for (int i = 0; i < cc.size(); i++) {
23             if (cc.get(i) == 10) {
24                 cc.set(i, 100);
25             }
26         }
27         System.out.println("Replaced List: "+ cc);
28     }
29 }
```

<terminated> ReplaceValues [Java Application] C:\Users\Lenovo\Downloads\Compressed\eclipse\plugins\org.eclipse.j

Original List: [100, 200, 300, 400, 500, 600, 700]  
Replaced List: [100, 200, 350, 400, 500, 600, 700]  
Original List: [10, 20, 30, 90, 10, 10, 40, 50, 30]  
Replaced List: [100, 20, 30, 90, 100, 100, 40, 50, 30]

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eclipse-workspace - ArrayTasks/src/com/arrays/CommonValues.java - Eclipse IDE

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ArrayTasks > src > com.arrays > CommonValues.java

Package Explorer

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Task6.java RemoveIndex.jav AddingValues.ja ReplaceValues.j CommonValues.ja

```
7
8 public class CommonValues {
9     public static void main(String[] args) {
10 //Task 10.1 & 10.2
11     List<Integer> list1 = new ArrayList<>(Arrays.asList(10, 20, 30,
12
13     List<Integer> list2 = new ArrayList<>();
14     Collections.addAll(list2, 30, 40, 50, 60, 80);
15
16     List<Integer> list3 = new ArrayList<>(Arrays.asList(10,20,30,40,
17     List<Integer> list4 = new ArrayList<>(Arrays.asList(100,200,300,
18
19     List<Integer> CommonValuesarray1 = new ArrayList<>();
20     List<Integer> CommonValuesarray2 = new ArrayList<>();
21     for (int i = 0; i < list1.size(); i++) {
22         if (list2.contains(list1.get(i))) {
23             CommonValuesarray1.add(list1.get(i));
24         }
25     }
26     for (int i = 0; i < list2.size(); i++) {
27         if (list2.contains(list2.get(i))) {
28             CommonValuesarray1.add(list2.get(i));
29         }
30     }
31     System.out.println("List 1: "+list1 +
32                        "\nList 2: "+ list2 +
33                        "\nCommon Values: "+CommonValuesarray1);
34     System.out.println("List 3: "+list3 +
35                        "\nList 4: "+ list4 +
36                        "\nCommon Values: "+CommonValuesarray2);
37 }
38 }
```

Console

<terminated> CommonValues [Java Application] C:\Users\Lenovo\Downloads\Compressed\eclipse\plugi

List 1: [10, 20, 30, 90, 10, 10, 40, 50]  
List 2: [30, 40, 50, 60, 80]  
Common Values: [30, 40, 50, 30, 40, 50, 60, 80]  
List 3: [10, 20, 30, 40, 50, 60, 70, 80]  
List 4: [100, 200, 300, 400, 500, 600, 700, 8000]  
Common Values: []

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eclipse-workspace - ArrayTasks/src/com/arrays/RemoveAll.java - Eclipse IDE

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ArrayTasks > src > com.arrays > RemoveAll.java

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Task6.java RemoveIndex.jav AddingValues.ja ReplaceValues.j CommonValues.ja RemoveAll.java »6

```
1 package com.arrays;
2
3 import java.util.ArrayList;
4 import java.util.Arrays;
5 import java.util.List;
6
7 public class RemoveAll {
8     public static void main(String[] args) {
9         //Task 11.1
10         List<Integer> list1 = new ArrayList<>(Arrays.asList(10, 20, 30, 90, 10, 10, 40, 50));
11         List<Integer> list2 = new ArrayList<>(Arrays.asList(30, 40, 50, 60, 80));
12         List<Integer> newList = new ArrayList<>(list1);
13         newList.removeAll(list2);
14         System.out.println("List1"+ list1);
15         System.out.println("List2"+ list2);
16         System.out.println("Removed common values...\nNew List"+newList);
17         //Task 11.2
18         List<Integer> list3 = new ArrayList<>(Arrays.asList(10,20,30,40,50,60,70,80));
19         List<Integer> list4 = new ArrayList<>(Arrays.asList(100,200,300,400,500,600,700,8000));
20         List<Integer> newList2 = new ArrayList<>(list3);
21         newList2.removeAll(list4);
22         System.out.println("\n\nList3"+ list3);
23         System.out.println("List4"+ list4);
24         System.out.println("Removed common values...\nNew List"+newList2);
25     }
26 }
27
```

Console

<terminated> RemoveAll [Java Application] C:\Users\Lenovo\Downloads\Compressed\RemoveAll.jar

List1[10, 20, 30, 90, 10, 10, 40, 50]  
List2[30, 40, 50, 60, 80]  
Removed common values...  
New List[10, 20, 90, 10, 10]

List3[10, 20, 30, 40, 50, 60, 70, 80]  
List4[100, 200, 300, 400, 500, 600, 700, 8000]  
Removed common values...  
New List[10, 20, 30, 40, 50, 60, 70, 80]

13:19  
28-03-2023