**1.**

**1.1) Program to remove all repeated elements from an array**

**1.2) Write a Java program to find the common elements between two arrays of integers.**

import java.util.\*;  
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public class Que\_1 {  
 public static void main(String[] args) {  
 Scanner sc = new Scanner(System.*in*);  
 System.*out*.println("Enter size of the array:");  
 int n = sc.nextInt();  
 int[] array = new int[n];  
 System.*out*.println("Enter array elements:");  
 for(int i=0;i<n;i++){  
 array[i] = sc.nextInt();  
 }  
 // Sample array with repeated elements  
 //int[] array = { 10, 20, 30, 20, 40, 10, 50 };  
  
 // Convert array to a set to remove duplicates  
 *Set*<Integer> uniqueElements = new HashSet<>();  
 for (int element : array) {  
 uniqueElements.add(element);  
 }  
  
 // Convert set back to an array without repeated elements  
 int[] arrayWithoutDuplicates = new int[uniqueElements.size()];  
 int index = 0;  
 for (int element : uniqueElements) {  
 arrayWithoutDuplicates[index++] = element;  
 }  
  
 // Print the array without repeated elements  
 System.*out*.println("Array without repeated elements:");  
 for (int element : arrayWithoutDuplicates) {  
 System.*out*.print(element + " ");  
 }  
  
 System.*out*.println();  
  
 // Sample arrays  
 int[] array1 = { 1, 2, 3, 4, 5 };  
 int[] array2 = { 4, 5, 6, 7, 8 };  
  
 // Convert arrays to sets  
 *Set*<Integer> set1 = new HashSet<>();  
 *Set*<Integer> set2 = new HashSet<>();  
  
 for (int element : array1) {  
 set1.add(element);  
 }  
  
 for (int element : array2) {  
 set2.add(element);  
 }  
  
 // Find common elements using retainAll() method  
 set1.retainAll(set2);  
  
 // Convert set to an array of common elements  
 int[] commonElements = new int[set1.size()];  
 index = 0;  
 for (int element : set1) {  
 commonElements[index++] = element;  
 }  
  
 // Print the common elements  
 System.*out*.println("Common elements:");  
 for (int element : commonElements) {  
 System.*out*.print(element + " ");  
 }  
 }  
}

**2.**

**2. 1) Java Program to Count Number of Duplicate Words in String**

**How to Check if the String Contains 'e' in umbrella**

import java.util.\*;  
public class Que\_2 {  
 public static void main(String[] args) {  
// String str = "hi";  
//  
// if (str.contains("e")) {  
// System.out.println("The string contains 'e'.");  
// } else {  
// System.out.println("The string does not contain 'e'.");  
// }  
 String str = "Java is a programming language. Java is widely used in industry. Java is versatile.";  
  
 HashMap<String, Integer> wordCountMap = new HashMap<>();  
 String[] words = str.toLowerCase().split(" ");  
  
 for (String word : words) {  
 if (wordCountMap.containsKey(word)) {  
 // If the word already exists in the map, increment its count  
 wordCountMap.put(word, wordCountMap.get(word) + 1);  
 } else {  
 // If the word is encountered for the first time, add it to the map with count 1  
 wordCountMap.put(word, 1);  
 }  
 }  
  
 System.*out*.println("Duplicate words in the string:");  
  
 for (String word : wordCountMap.keySet()) {  
 if (wordCountMap.get(word) > 1) {  
 System.*out*.println(word + ": " + wordCountMap.get(word));  
 }  
 }  
 }  
}