### **http://javaconceptoftheday.com/java-array-interview-programs/**

### **Write a java program to remove duplicate elements from an array **Without Using Collection API?****

**package** programs;

**import** java.util.Arrays;

**public** **class** RemoveDuplicatesFromArray {

**public** **static** **void** removeDuplicates(**int**[] arraywithduplicates)

{

System.***out***.println("Array With Duplicates : "+Arrays.*toString*(arraywithduplicates));

//Assuming all elements in input array are unique

//size of the array

**int** noOfUniqueElements = arraywithduplicates.length;

//Comparing each element with all other elements

**for**(**int** i=0;i<noOfUniqueElements;i++)

{

**for**(**int** j=i+1;j<noOfUniqueElements;j++)

{

//If any two elements are found equal

**if**(arraywithduplicates[i]==arraywithduplicates[j])

{

//Replace duplicate element with last unique element

arraywithduplicates[j] = arraywithduplicates[noOfUniqueElements-1];

//Decrementing noOfUniqueElements

noOfUniqueElements--;

//Decrementing j

j--;

}

}

}

//Copying only unique elements of arrayWithDuplicates into arrayWithoutDuplicates

**int**[] arrayWithoutDuplicates = Arrays.*copyOf*(arraywithduplicates, noOfUniqueElements);

//Printing arrayWithoutDuplicates

System.***out***.println("Array Without Duplicates : "+Arrays.*toString*(arrayWithoutDuplicates));

System.***out***.println("==============================");

}

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

*removeDuplicates*(**new** **int**[] {4, 3, 2, 4, 9, 2});

*removeDuplicates*(**new** **int**[] {1, 2, 1, 2, 1, 2});

*removeDuplicates*(**new** **int**[] {15, 21, 11, 21, 51, 21, 11});

*removeDuplicates*(**new** **int**[] {7, 3, 21, 7, 34, 18, 3, 21});

}

}

### How To Remove Duplicate Elements From An Array In Java Using Collection API?

**package** programs;

**import** java.util.LinkedHashSet;

**import** java.util.Set;

**public** **class** RemoveDuplicateArrayUsingCollectionAPI {

**public** **static** **void** removeDuplicates(**int**[] arraywithduplicates)

{

System.***out***.println("Array With Duplicates : ");

**for** (**int** i = 0; i < arraywithduplicates.length; i++)

{

System.***out***.print(arraywithduplicates[i]+"\t");

}

Set<Integer> set = **new** LinkedHashSet<Integer>(); //Use HashSet if you don't want insertion order

**for** (**int** i = 0; i < arraywithduplicates.length; i++)

{

set.add(arraywithduplicates[i]);

}

//Converting set into an array

Object[] arraywithoutduplicates=set.toArray();

//Printing arrayWithoutDuplicates

System.***out***.println();

**for** (**int** i = 0; i < arraywithoutduplicates.length; i++)

{

System.***out***.print(arraywithoutduplicates[i]+"\t");

}

System.***out***.println();

System.***out***.println("==============================");

}

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

*removeDuplicates*(**new** **int**[] {4, 3, 2, 4, 9, 2});

*removeDuplicates*(**new** **int**[] {1, 2, 1, 2, 1, 2});

*removeDuplicates*(**new** **int**[] {15, 21, 11, 21, 51, 21, 11});

*removeDuplicates*(**new** **int**[] {7, 3, 21, 7, 34, 18, 3, 21});

}

}

### Java Program To Find Duplicate Elements In An Array Using HashSet

**package** programs;

**import** java.util.HashSet;

**public** **class** ArrayDuplicateElementsUsingHashset {

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

String[] strArray = {"abc", "def", "mno", "xyz", "pqr", "xyz", "def"};

HashSet<String> set=**new** HashSet<String>();

**for**(String arrayElement: strArray)

{

**if**(!set.add(arrayElement))

{

System.***out***.println("Duplicate Element is " + arrayElement);

}

}

}

}

**java program to find second largest element in an array of integers?**

**package** programs;

**import** java.util.Arrays;

**public** **class** ArraySecondLargestElement {

**public** **static** **void** secondLargest(**int**[] input)

{

**int** firstLargest, secondLargest;

//Checking first two elements in the array

**if**(input[0] > input[1])

{

//If first element is greater than second element

firstLargest = input[0];

secondLargest = input[1];

}

**else**

{

firstLargest = input[1];

secondLargest = input[0];

}

//Checking remaining elements of input array

**for** (**int** i = 2; i < input.length; i++)

{

**if**(input[i]>firstLargest)

{

//If element at 'i' is greater than 'firstLargest'

secondLargest = firstLargest;

firstLargest = input[i];

}

**else** **if** (input[i] < firstLargest && input[i] > secondLargest)

{

//If element at 'i' is smaller than 'firstLargest' and greater than 'secondLargest'

secondLargest = input[i];

}

}

System.***out***.println("Input Array :");

System.***out***.println(Arrays.*toString*(input));

System.***out***.println("Second Largest Element : ");

System.***out***.println(secondLargest);

}

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

*secondLargest*(**new** **int**[] {10, 15, 12, 14, 13, 18});

}

}

**java program to check the equality of two arrays?**

**package** programs;

**import** java.util.Arrays;

**public** **class** EqualityOfArrays {

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

**int**[] arrayOne = {21, 57, 11, 37, 24};

**int**[] arrayTwo = {21, 57, 11, 37, 34};

**boolean** equalOrNot = Arrays.*equals*(arrayOne, arrayTwo);

System.***out***.println("Input Arrays :");

System.***out***.println("First Array : "+Arrays.*toString*(arrayOne));

System.***out***.println("Second Array : "+Arrays.*toString*(arrayTwo));

**if** (equalOrNot)

{

System.***out***.println("Two Arrays Are Equal");

}

**else**

{

System.***out***.println("Two Arrays Are Not equal");

}

}

}

**Write a java program to find the intersection of two arrays(Common Elements of two Arrays)?**

**package** programs;

**import** java.util.Arrays;

**import** java.util.HashSet;

**public** **class** CommonElementsOfTwoArrays {

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

String[] inputArray1 = {"ONE", "TWO", "THREE", "FOUR", "FIVE", "FOUR"};

String[] inputArray2 = {"THREE", "FOUR", "FIVE", "SIX", "SEVEN", "FOUR"};

HashSet<String> set = **new** HashSet<String>();

**for** (**int** i = 0; i < inputArray1.length; i++)

{

**for** (**int** j = 0; j < inputArray2.length; j++)

{

**if**(inputArray1[i].equals(inputArray2[j]))

{

set.add(inputArray1[i]);

}

}

}

System.***out***.println("First Array : "+Arrays.*toString*(inputArray1));

System.***out***.println("Second Array : "+Arrays.*toString*(inputArray2));

System.***out***.println("Common Elements : "+set);

**int**[] intinputArray1= {1,2,3,4};

**int**[] intinputArray2= {2,5,4,6};

HashSet<Integer> setint=**new** HashSet<Integer>();

**for** (**int** i = 0; i < intinputArray1.length; i++)

{

**for** (**int** j = 0; j < intinputArray2.length; j++)

{

**if**(intinputArray1[i]==(intinputArray2[j]))

{

setint.add(intinputArray1[i]);

}

}

}

System.***out***.println("First Array : "+Arrays.*toString*(intinputArray1));

System.***out***.println("Second Array : "+Arrays.*toString*(intinputArray2));

System.***out***.println("Common Elements : "+setint);

}

}

Missing number in an integer Array’

**package** javaArrayPrograms;

**import** java.util.Arrays;

**public** **class** MissingNumberInIntegerArray {

//Method to calculate sum of 'n' numbers

**public** **static** **int** sumOfNnumbers(**int** n)

{

**int** sum = (n \* (n+1))/ 2;

**return** sum;

}

//Method to calculate sum of all elements of array

**static** **int** sumOfElements(**int**[] array)

{

**int** sum = 0;

**for** (**int** i = 0; i < array.length; i++)

{

sum = sum + array[i];

}

**return** sum;

}

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

**int** n = 20;

**int**[] a = {1, 4, 5, 3, 2, 8, 6,7,9,10,12,13,14,15,16,17,18,19,20};

**int** sumOfNnumbers = *sumOfNnumbers*(n);

**int** sumOfElements = *sumOfElements*(a);

**int** missingNumber = sumOfNnumbers - sumOfElements;

System.***out***.println("Input Array : "+Arrays.*toString*(a));

System.***out***.println("Missing Number is = "+missingNumber);

}

}