1. Write a java program to find duplicate elements in an array?

**public** **class** Duplicate\_array\_element {

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

**int**[] arr = {2,7,8,9,0,3,2,8,9,0,6 };

System.***out***.println("Duplicate elements in array:");

**for** (**int** i = 0; i < arr.length - 1; i++) {

**for** (**int** j = i + 1; j < arr.length; j++) {

**if** (arr[i] == arr[j]) {

System.***out***.println(arr[i]);

}

}

}

}

}

Output:

Duplicate elements in array:

2

8

9

0

1. Write a java program to find second largest element in an array of integers?

**public** **class** Second\_largest\_element\_array\_integer {

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

**int** temp, size;

**int** array[] = {10, 20, 30, 43, 52, 60, 87};

size = array.length;

**for**(**int** i = 0; i<size; i++ ){

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

**if**(array[i]>array[j]){

temp = array[i];

array[i] = array[j];

array[j] = temp;

}

}

}

System.***out***.println("Second Largest Number is: "+array[size-2]);

}

}

Output:

Second Largest Number is: 60

1. Write a java program to check the equality of two arrays?

**import** java.util.Arrays;

**public** **class** Equality\_2Array {

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

String[] aaa = {"Navanee", "makizh", "arun", "vino"};

String[] bbb = {"Navanee", "josh", "arun", "jack"};

String[] ccc = {"Navanee", "makizh", "arun", "vino"};

System.***out***.println(Arrays.*equals*(aaa, bbb));

System.***out***.println(Arrays.*equals*(aaa, ccc));

}

}

Output:

False

True

1. Write a java program to find all pairs of elements in an integer array whose sum is equal to a given number?

**public** **class** Pair\_elements {

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

**int**[] arr = { 2, 4, 3, 5, 7, 8, 9 };

**int** targetSum = 9;

System.***out***.println("Pair with sum " + targetSum + ":");

*findPairsWithSum*(arr, targetSum);

}

**static** **void** findPairsWithSum(**int**[] arr, **int** targetSum) {

**for** (**int** i = 0; i < arr.length - 1; i++) {

**for** (**int** j = i + 1; j < arr.length; j++) {

**if** (arr[i] + arr[j] == targetSum) {

System.***out***.println(arr[i] + " + " + arr[j] + " = " + targetSum);

}

}

}

}

}

Output:

Pair with sum 9:

2 + 7 = 9

4 + 5 = 9

1. Write a java program to find continuous sub array whose sum is equal to a given number?

**import** java.util.Arrays;

**public** **class** SubArray {

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

**int**[] arr = { 27, 5, 3, 80, 7, 9, 12 };

**int** requiredSum = 95;

*findSubArray*(arr, requiredSum);

}

**static** **void** findSubArray(**int**[] arr, **int** requiredSum)

{

**int** sum = arr[0], start = 0;

**for** (**int** i = 1; i < arr.length; i++)

{

**if** (sum == requiredSum) {

System.***out***.print("Continuous Sub Aarray of " + Arrays.*toString*(arr) + " whose sum "

+ requiredSum + " is [ ");

**for** (**int** j = start; j < i; j++)

{

System.***out***.print(arr[j] + " ");

}

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

}

sum = sum + arr[i];

**while** (sum > requiredSum && start <= i - 1)

{

sum = sum - arr[start];

start++;

}

}

}

}

Output:

Continuous Sub Aarray of [27, 5, 3, 80, 7, 9, 12] whose sum 95 is [ 5 3 80 7 ]

1. Write a java program to find the intersection of two arrays?

**public** **class** Insertion\_2Array {

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

**int**[] array1 = {23, 36, 96, 78, 55, 99, 87};

**int**[] array2 = {78, 45, 19, 73, 55, 100, 87};

System.***out***.println("Intersection of Two Arrays :");

**for**(**int** i = 0; i<array1.length; i++ ) {

**for**(**int** j = 0; j<array2.length; j++) {

**if**(array1[i]==array2[j]) {

System.***out***.println(array2[j]);

}

}

}

}

}

Output:

Intersection of Two Arrays :

78

55

87

1. Write a java program to separate zeros from non-zeros in an integer array?

**public** **class** Separate\_Zero\_from\_NonZero {

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

**int**[] arr = { 0, 2, 0, 4, 0, 6, 7, 0, 9 ,8,0,24,0,0,45,0,0};

*separateZerosAndNonZeros*(arr);

System.***out***.println("Array after Separating Zero and Non-Zero: ");

**for** (**int** num : arr) {

System.***out***.print(num + " ");

}

}

**static** **void** separateZerosAndNonZeros(**int**[] arr) {

**int** nonZeroIndex = 0;

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

**if** (arr[i] != 0) {

**int** temp = arr[i];

arr[i] = arr[nonZeroIndex];

arr[nonZeroIndex] = temp;

nonZeroIndex++;

}

}

}

}

Output:

Array after Separating Zero and Non-Zero:2 4 6 7 9 8 24 45 0 0 0 0 0 0 0 0 0

1. Write a java program to convert an array to ArrayList and an ArrayList to array?

**import** java.util.Arrays;

**import** java.util.ArrayList;

**import** java.util.List;

**public** **class** Arr\_Arrlist\_Arrlist\_Arr {

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

List<String> nameList = **new** ArrayList<>();

nameList.add("Navanee");

nameList.add("Makizh");

nameList.add("Karthi");

nameList.add("Kishore");

nameList.add("Lokesh");

System.***out***.println("Converting ArrayList to Array" );

String[] item = nameList.toArray(**new** String[nameList.size()]);

**for**(String s : item){

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

}

System.***out***.println("Converting Array to ArrayList" );

List<String>l2 = **new** ArrayList<>();

l2 = Arrays.*asList*(item);

System.***out***.println(l2);

}

}

Output:

Converting ArrayList to Array :

Navanee

Makizh

Karthi

Kishore

Lokesh

Converting Array to ArrayList :

[Navanee, Makizh, Karthi, Kishore, Lokesh]

1. Write a java program to count occurrences of each element in an array?

**import** java.util.Scanner;

**public** **class** Count\_Occurrences {

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

String str;

**int** i, len;

**int** counter[] = **new** **int**[256];

Scanner input = **new** Scanner(System.***in***);

System.***out***.print("Please Enter String: ");

str = input.nextLine();

len = str.length();

**for** (i = 0; i < len; i++)

{

counter[(**int**) str.charAt(i)]++;

}

**for** (i = 0; i < 256; i++)

{

**if** (counter[i] != 0)

{

System.***out***.println((**char**) i + " --> " + counter[i]);

}

}

}

}

Output:

Please Enter String: Navanee

N --> 1

a --> 2

e --> 2

n --> 1

v --> 1

1. Write a java program to reverse an array without using an additional array?

**public** **class** Reverse\_Array {

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

**int**[] arr = { 1,2,3,4,5,6,7,8,9,10 };

*reverseArray*(arr);

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

**for** (**int** num : arr) {

System.***out***.print(num + " ");

}

}

**static** **void** reverseArray(**int**[] arr) {

**int** left = 0;

**int** right = arr.length - 1;

**while** (left < right) {

**int** temp = arr[left];

arr[left] = arr[right];

arr[right] = temp;

left++;

right--;

}

}

}

Output :

Reversed Array: 10 9 8 7 6 5 4 3 2 1