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

**package** JAVA;

**public** **class** DuplicateElementPG {

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

{

**int**[] arr = **new** **int**[] {1,2,3,4,2,7,8,8,3};

System.***out***.println("Duplicate element in given array");

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

{

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

{

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

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

}

}

}

}

**Output:**

Duplicate element in given array

2

3

8

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

**package** JAVA;

**public** **class** SecondLargestElementPG {

**public** **static** **int** getSecondLargest(**int**[] a, **int** total)

{

**int** temp;

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

{

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

{

**if**(a[i] > a[j])

{

temp = a[i];

a[i] = a[j];

a[j] = temp;

}

}

}

**return** a[total-2];

}

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

{

**int** a[] = {1,2,5,6,3,2};

**int** b[] = {44,66,99,77,33,22,55};

System.***out***.println("SecondLargest:" + *getSecondLargest*(a,6));

System.***out***.println("SecondLargest:" + *getSecondLargest*(b,7));

}

}

**Output:**

SecondLargest:5

SecondLargest:77

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

**package** JAVA;

**import** java.util.Arrays;

**public** **class** EqualityOfAnArrayPG {

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

{

**int**[] a1 = **new** **int**[] {1,2,3,4,5,6,7,8};

**int**[] a2 = **new** **int**[] {1,2,3,4,5,6,7,8};

**if**(a1 == a2)

{

System.***out***.println("Array are equal");

}

**else**

{

System.***out***.println("Array are not equal");

}

**int**[] arr1 = **new** **int**[] {'a','b','c','d','e'};

**int**[] arr2 = **new** **int**[] {'a','b','c','d','e'};

**if** (Arrays.*equals*(arr1, arr2))

{

System.***out***.println("Arrays are equal");

}

**else**

{

System.***out***.println("Arrays are not equal");

}

}

}

**Output:**

Array are not equal

Arrays are equal

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

**package** JAVA;

**public** **class** PairingOfElementPG {

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

{

**int**[] arr = {1,5,7,-1,5};

**int** k = 6;

*getParisCount*(arr,k);

}

**public** **static** **void** getParisCount(**int**[] arr, **int** k)

{

**int** count = 0;

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

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

**if**((arr[i] + arr[j]) ==k)

count ++;

System.***out***.printf("Count of pairs is %d", count);

}

}

**Output:**

Count of pairs is 3

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

**package** JAVA;

**import** java.util.Arrays;

**import** java.util.Scanner;

**public** **class** SubArrayPG {

**public** **static** **void** subarray(**int** arr[], **int** n, **int** sum)

{

**int** currentsum,i,j;

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

{

currentsum = arr[i];

**for**(j=i+1;j<=n;j++)

{

**if**(currentsum == sum)

{

**int** p = j-1;

System.***out***.println("Sum found between indexes " + i + "and" + p);

}

**if**(currentsum > sum || j == n)

**break**;

currentsum = currentsum + arr[j];

}

}

System.***out***.println("No subarray found");

}

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

{

**int** n;

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

System.***out***.println("Enter number of elements:");

n = sc.nextInt();

**int**[] array = **new** **int**[100];

System.***out***.println("Enter elements of the array:");

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

{

array[i]=sc.nextInt();

}

System.***out***.println("Enter value of sum:");

**int** sum = sc.nextInt();

*subarray*(array, n, sum);

}

}

**Output:**

Enter number of elements:

5

Enter elements of the array:

2 5 7 9 3

Enter value of sum:

26

Sum found between indexes 0and4

No subarray found

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

**package** JAVA;

**public** **class** intersectionOfArrayPG {

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

{

**int** myArray1[] = {23, 36, 96, 78, 55};

**int** myArray2[] = {78, 45, 19, 73, 55};

System.***out***.println("Intersection of the two array:");

**for**(**int** i=0;i<myArray1.length;i++)

{

**for**(**int** j=0;j<myArray2.length;j++)

{

**if**(myArray1[i] == myArray2[j])

{

System.***out***.println(myArray2[j]);

}

}

}

}

}

**Output:**

Intersection of the two array:

78

55

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

**package** JAVA;

**public** **class** SeparateZeroAndNonzeroPG {

**static** **int** *a*[] = {1,4,3,4,0,1};

**static** **int** *k*=6;

**static** **int** *n*=*a*.length;

**public** **static** **void** move0toEnd()

{

**int** bigin=0;

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

{

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

{

*a*[bigin]=*a*[i];

bigin+=1;

}

}

**while**(bigin<*n*)

{

*a*[bigin]=0;

bigin+=1;

}

}

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

{

*move0toEnd*();

**for**(**int** i:*a*)

System.***out***.println(i+" ");

}

}

**Output:**

1

4

3

4

1

0

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

**package** JAVA;

**import** java.util.ArrayList;

**import** java.util.Arrays;

**import** java.util.List;

**public** **class** ConvertArrayToArraylistPG {

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

{

String[] array = {"Java","Python","C"};

List al = Arrays.*asList*(array);

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

}

}

**Output:**

[Java, Python, C]

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

**package** JAVA;

**import** java.util.Scanner;

**public** **class** CountOccurrencePG {

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

{

**int** n,x,count = 0, i = 0;

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

System.***out***.println("Enter no. of elements you want in array:");

n = s.nextInt();

**int** a[] = **new** **int**[n];

System.***out***.println("Enter all the element:");

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

{

a[i] = s.nextInt();

}

System.***out***.println("Enter the element of which you want to count number of occurrences:");

x = s.nextInt();

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

{

**if**(a[i] == x)

{

count++;

}

}

System.***out***.println("Number of Occurrences of the element: " + count);

}

}

**Output:**

Enter no. of elements you want in array:

6

Enter all the element:

3

4

5

7

5

5

Enter the element of which you want to count number of occurrences:

5

Number of Occurrences of the element: 3

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

**package** JAVA;

**import** java.util.Scanner;

**public** **class** ReverseOfArrayPG {

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

{

**int**[] arr = **new** **int**[] {1,2,3,4,5};

System.***out***.println("Original array:");

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

{

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

}

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

System.***out***.println("Array in reverse order");

**for**(**int** i=arr.length-1;i>=0;i--)

{

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

}

}

}

**Output:**

Original array:

1

2

3

4

5

Array in reverse order

5

4

3

2

1