Programs | Class Room Assignment-10

1. WAP to set marks of 5 subjects manually and print it by indexing, for loop, while loop, do while loop and for each loop separately.
2. WAP to set the characters of “Hello Andrew” in an array manually and print it by indexing, for loop, while loop, do while loop and for each loop separately.
3. WAP to take marks of 7 subjects from a user and print it.
4. WAP to take n number of elements of an array and find out the sum of first and last element of an array.
5. WAP to take n number of elements of an array from user and find out the sum of all the elements.
6. WAP to take n number of elements of an array from user and find out the average of all the elements.
7. WAP to take n number of elements of an array from user and find out the sum of even indexing elements.
8. WAP to take n number of elements of an array from user and find out the sum of odd indexing elements.
9. WAP to take n number of elements of an array from user and find out the sum of even elements.
10. WAP to take n number of elements of an array from user and find out the sum of odd elements.
11. WAP to print even and odd indexing elements separately.
12. WAP to count no. Of even and odd elements
13. WAP to count no. Of elements which are greater than or equals to 50
14. WAP to count no. Of elements which lies in between 50 and 100
15. WAP to count no. Of elements which are the multiple of 10.
16. WAP to reverse all the elements of an array
17. WAP to reverse individual elements of an array
18. WAP to insert an element at specific index in an array
19. WAP to remove an element from a specific index
20. WAP to merge two arrays
21. WAP to check whether entered array is a palindrome or not
22. WAP showing the concept of Selection sort (Ascending order | Descending order)
23. WAP showing the concept of Bubble sort (Ascending order | Descending order)
24. WAP to find out the largest(maximum) element from an array
25. WAP to find out the smallest(minimum) element from an array
26. WAP to find out the second largest element from an array
27. WAP to find out the second smallest element from an array
28. WAP to find out the frequency of number 25 from an array
29. WAP to find out the frequency of all the elements of an array
30. WAP to find out the element which have highest frequency.
31. WAP to search an element from an array using Linear search
32. WAP to search an element from an array using Binary search
33. WAP to merge two arrays and arrange them in ascending order
34. WAP showing the concept of Insertion sort
35. WAP showing the concept of merge sort
36. WAP showing the concept of quick sort
37. Java Program to Find Maximum Difference Between Two Elements in an Array

Description :

Enter size of array and then enter all the elements of that array. Now we check for all possible difference between two elements and then select the elements whose difference is largest one.

1. Java Program to Print Next Greater Element in Array

Problem Description

Given an array, print the Next Greater Element (NGE) for every element. The Next greater Element for an element x is the first greater element on the right side of x in the array. Elements for which no greater element exist, consider next greater element as -1.

Example:

For the input array [6, 4, 5, 7], the next greater elements for each element are as follows.

6—->7

4—->5

5—->7

7—->-1

1. Java Program to Remove Duplicate Elements from Array

Problem Description

Given a sorted array of integers, remove the duplicates of the elements from the array.

Example:

Array = [1 2 2 3 3 4]

Output

Array = [1 2 3 4]

40) Java Program to Cyclically Permute the Elements of an Array

Problem Description

Given an array of integers, cyclically permute its elements, that is, shift each array element to the left by one index. The first value will go into the last index.

Example:

Array: [1,2,3,4,5]

Output: [2,3,4,5,1]

41) Java Program to Sort Names in an Alphabetical Order

42) Java Program to Split an Array from Specified Position

43) Java Program to Move All Zeros to the Start of an Array

Problem Description

Given an array of integers, shift all the zeroes present in it to the beginning.

Example:

Array = [1 0 2 3 0 4]

Output

Array = [0 0 1 2 3 4]

44) Java Program to Find Union and Intersection of Two Arrays

Problem Description

Given two arrays of integers, find and print the union and intersection of the arrays.

Example:

Array: [1,2,3,4,5]

Array1: [5,3,6,7,9]

Output:

Union = [1,2,3,4,5,6,7,9]

Intersection = [3,5]

45) WAP to check prime numbers in an array

46) WAP to replace all EVEN elements by 0 and Odd by 1 in One Dimensional Array

47) WAP to swap adjacent elements of a one dimensional array

48) WAP to split an array and add the first half after the second half of the array

49) WAP to compare two array

50) Java Program For Sorting An Array Of 0s, 1s and 2s

51) Given an unsorted array arr[] of size N having both negative and positive integers. The task is place all negative element at the end of array without changing the order of positive element and negative element.

Example 1:

Input :

N = 8

arr[] = {1, -1, 3, 2, -7, -5, 11, 6 }

Output :

1 3 2 11 6 -1 -7 -5

Example 2:

Input :

N=8

arr[] = {-5, 7, -3, -4, 9, 10, -1, 11}

Output :

7 9 10 11 -5 -3 -4 -1

52) Count pair with given sum.

Given an array of N integers, and an integer K, find the number of pairs of elements in the array whose sum is equal to K.

Example 1:

Input:

N = 4, K = 6

arr[] = {1,5,7,1}

Output: 2

Explanation:

arr[0] + arr[1] = 1 + 5 = 6

and arr[1] + arr[3] = 5 + 1 = 6.

Example 2:

Input:

N = 4, X = 2

arr[] = {1, 1, 1, 1}

Output: 6

Explanation:

Each 1 will produce sum 2 with any 1.

53) Find common elements in three sorted arrays.

Given three arrays sorted in increasing order. Find the elements that are common in all three arrays.

Example 1:

Input:

n1 = 6; A = {1, 5, 10, 20, 40, 80}

n2 = 5; B = {6, 7, 20, 80, 100}

n3 = 8; C = {3, 4, 15, 20, 30, 70, 80, 120}

Output: 20 80

Explanation: 20 and 80 are the only

common elements in A, B and C.

54)Count pair with given sum.

Given an array of N integers, and an integer K, find the number of pairs of elements in the array whose sum is equal to K.

Example 1:

Input:

N = 4, K = 6

arr[] = {1,5,7,1}

Output: 2

Explanation:

arr[0] + arr[1] = 1 + 5 = 6

and arr[1] + arr[3] = 5 + 1 = 6.

Example 2:

Input:

N = 4, X = 2

arr[] = {1, 1, 1, 1}

Output: 6

Explanation:

Each 1 will produce sum 2 with any 1.

55) Find the first non-repeating element in a given array arr of N integers.

Note: Array consists of only positive and negative integers and not zero.

Example 1:

Input : arr[] = {-1, 2, -1, 3, 2}

Output : 3

Explanation:

-1 and 2 are repeating whereas 3 is

the only number occuring once.

Hence, the output is 3.

Example 2:

Input : arr[] = {1, 1, 1}

Output : 0

56) Java program to find nearest lesser and greater element in array

Given an array of N elements and we have to find nearest lesser and nearest greater element using Java program.

Example:

Input:

Enter the number of elements for the arrray : 3

Enter the elements for array\_1..

array\_1[0] : 1

array\_1[1] : 2

array\_1[2] : 3

Enter the number : 2

Output:

Element lesser than 2 is : 1

Element greater than 2 is : 3

57) Given two arrays of integers A and B of sizes M and N respectively. Write a Write a java program, which will produce a third array named C. such that the following sequence is followed.

All even numbers of A from left to right are copied into C from left to right.

All odd numbers of A from left to right are copied into C from right to left.

All even numbers of B from left to right are copied into C from left to right.

All old numbers of B from left to right are copied into C from right to left.

58) Max Sum in configuration

Given an array(0-based indexing), you have to find the max sum of i\*A[i] where A[i] is the element at index i in the array.The only operation allowed is to rotate(clock-wise or counter clock-wise) the array any number of times.

Example 1:

Input:

N = 4

A[] = {8,3,1,2}

Output: 29

Explanation: Above the configuration

possible by rotating elements are

3 1 2 8 here sum is 3\*0+1\*1+2\*2+8\*3 = 29

1 2 8 3 here sum is 1\*0+2\*1+8\*2+3\*3 = 27

2 8 3 1 here sum is 2\*0+8\*1+3\*2+1\*3 = 17

8 3 1 2 here sum is 8\*0+3\*1+1\*2+2\*3 = 11

Here the max sum is 29

1. WAP to find out the sum of all the elements of 2D array
2. WAP to find out the sum of specific row entered by the user
3. WAP to find out the sum of specific column entered by the user
4. WAP to find out the sum of LR diagonal elements
5. WAP to count even and odd elements in a 2D array
6. WAP to find out the sum of all the elements whose sum of indexes is odd
7. WAP to find out the sum of RL diagonal elements
8. WAP to find out the sum of LR and RL diagonal elements ignoring the repeated center term
9. WAP to find out the sum of all the boundary elements.
10. WAP to transpose 2D array
11. WAP to check whether entered 2D array is a unit or Identity matrix or not
12. WAP to check whether entered array is upper triangular matrix or not
13. WAP to check whether entered array is lower triangular matrix or not
14. WAP to add two 2D array
15. WAP to subtract two 2D array
16. WAP to multiply two 2D array
17. WAP showing the concept of jagged array without taking inputs from user
18. WAP showing the concept of jagged array by taking inputs from user
19. WAP showing the concept of multidimensional array