**Dr. Mahalingam College of Engineering and Technology, Pollachi-3**

**(An Autonomous Institution affiliated to Anna University)**

**Name of Programme: B.E Computer Science and Engineering**

**Arrays Date: 29/12/2017**

1. Given an array of n distinct elements and a number x, arrange array elements according to the absolute difference with x, i. e., element having minimum difference comes first and so on.  
Note : If two or more elements are at equal distance arrange them in same sequence as in the given array.

**Input :** arr[] : x = 7, arr[] = {10, 5, 3, 9, 2}

**Output :** arr[] = {5, 9, 10, 3, 2}

**Explanation:**

7 - 10 = 3(abs)

7 - 5 = 2

7 - 3 = 4

7 - 9 = 2(abs)

7 - 2 = 5

So according to the difference with X,

elements are arranged as 5, 9, 10, 3, 2

2. Given an unsorted array of both negative and positive integer. The task is place all negative element at the end of array without changing the order of positive element and negative element

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

Output : 1 3 2 11 6 -1 -7 -5

3. Given a sorted array of positive integers, rearrange the array alternately i.e first element should be maximum value, second minimum value, third second max, fourth second min and so on.

Input : arr[] = {1, 2, 3, 4, 5, 6, 7}

Output : arr[] = {7, 1, 6, 2, 5, 3, 4}

4. You are given an array of 0s and 1s in random order. Segregate 0s on left side and 1s on right side of the array. Traverse array only once.

Input array = [0, 1, 0, 1, 0, 0, 1, 1, 1, 0]

Output array = [0, 0, 0, 0, 0, 1, 1, 1, 1, 1]

5. Given an array A[], write a function that segregates even and odd numbers. The functions should put all even numbers first, and then odd numbers.

Example

Input = {12, 34, 45, 9, 8, 90, 3}

Output = {12, 34, 8, 90, 45, 9, 3}