



## Assignment 4 – Arrays-2

1. Insertion Sort
2. Given two arrays print their intersection.
  - a. Instead of printing write a function which returns their intersection.
3. Find second largest element in an array.
4. Given an array of integers A and an integer x. Find triplets of elements in A which sum to x.
5. You are given with an array containing only 0's, 1's and 2's. Write a function to sort this array. Also find another solution which scans the array once.
6. A sorted array has been rotated by some number k in clockwise direction. Find k. E.g. Input: 5,6,1,2,3,4 Output: 2
7. Find equilibrium index of the array. Equilibrium index of an array is an index such that the sum of elements at lower indexes is equal to the sum of elements at higher indexes.

Eg : Input -7, 1, 5, 2, -4, 3, 0

Output - 3 is an equilibrium index because:  $A[0] + A[1] + A[2] = A[4] + A[5] + A[6]$
8. Given an array of integers, sort the array into a wave like array and return it. In other words, arrange the elements into a sequence such that  $a_1 \geq a_2 \leq a_3 \geq a_4 \leq a_5 \geq a_6 \dots$