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# ALGORITHM LAB

## Review of Fundamentals of Data Structure-I

### PROGRAM EXERCISE-1

#### Lab. Exercise(LE):

- 1.1) Write a program to store numbers into an array of n integers and then find out the smallest and largest number stored in it. n is the user input.
- 1.2) Write a program to store numbers into an array of n integers, where the array must contain some duplicates. Find out the total number of duplicate elements.
- 1.3) Write a program to store numbers into an array of n integers, where the array must contain some duplicates. Find out the most repeating element in the array.
- 1.4) Write a program to rearrange the elements of an array of n integers such that all even numbers are followed by all odd numbers.
- 1.5) Write a program that takes three variable (a, b, c) as separate parameters and rotates the values stored so that value a goes to be, b, b to c and c to a by using SWAP(x,y) function that swaps/exchanges the numbers x & y.

#### Home Exercise(HE):

- 1.6) Write a program to swap pair of elements of an array of n integers from starting. If n is odd, then last number will be remain unchanged.
  - 1.7) Write a program to display an array of n integers ( $n > 1$ ), where at every index of the array should contain the product of all elements in the array except the element at the given index. Solve this problem by taking single loop and without an additional array.
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