## ALGORITHMS ANALYSIS AND DESIGN 1

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## **Assignment 1**

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## Iterative implementation of the following programs.

- 1. Write a JAVA program to find the sum of n numbers present in an array.
- 2. Write a JAVA program to find the maximum and minimum elements in an array.
- 3. Write a JAVA program to rotate (left or right) the array by k positions.
- 4. Write a JAVA program to find the largest sum contiguous subarray in an array. A largest sum contiguous subarray is a subarray of the original array whose elements are present contiguously and has a sum of the elements that is maximum among all the contiguous subarrays.
- 5. Given an unsorted array with both positive and negative elements, write a JAVA program to find the smallest positive number missing from the array.
- 6. Given an unsorted array, write a JAVA program reorder the elements of the array to store the numbers as maximum, minimum, second maximum, second minimum, third maximum, third minimum, and so on. (I/p: 1 2 3 4 5, O/p: 5 1 4 2 3)
- 7. Write a JAVA program to find the factorial of a given number.
- 8. Write a JAVA program to generate the nth Fibonacci number.