

Date of assignment: 09/07/2024  
Date of submission: 19/07/2024

Problem 1: Case study of an Array- Write a modular program which demonstrates the following operation on an array. Write algorithm for each operation/method defined by you. You are also required to find/compute **Time** and **Space** complexity of defined algorithms.

1. Add an element to the array
2. Insert/add an element at the desired location in an array
3. Delete an element from an array
4. Update an element/information associated with a pocket of an array
5. Find max and min in array

Array-A

### Report Writing

1. Objective: This section contains the problem statement defined by a Teacher
2. Discussion and Modeling of the Problem- Define the objective as you understand. Then find the block diagram of the problem. Link each block as flow of execution will take place. Discuss about each block with flowchart/algorithm.
3. Implementation- Write code for each block in terms of methods/functions. Link each method with the main block/control block.
4. Results- Run the code for different set of input data and record produced output. Test every module for considered set of input data.
5. Discussion- What observation you got from the output of the program, it is required to do for every method/function
6. Lesson Learned: What have you learned from this problem? What have you implemented? What is next to be done for betterment of the knowledge/learning?