

LAB-II

Date: **Aug 08, 2024.**

You need to upload your solutions to canvas portal before 05:30pm.

1. Given an array A having n integers. Write a program to INSERT a number at a given location in the array A . What is the running time?

Sample Input: First line denote the size of A ; second line denotes the elements of A ; third line denotes the number to be inserted; and fourth line denotes the position at which the number has to be inserted. What is the running time?

```
5
3 1 5 4 2
9
2
Output: 3 9 1 5 4 2
```

2. Given an array A having n integers. Write a program to DELETE a number at a given location in the array A .
Sample Input: First line denote the size of A ; second line denotes the elements of A ; and third line denotes the position from which the number has to be deleted.

```
5
3 1 5 4 2
3
Output: 3 1 4 2
```

3. Given two SORTED arrays A and B having n_1 and n_2 integers respectively. Write a program to merge A and B to form a new sorted array C . What is the running time.

Sample Input 1: First line denote the size of A and the second line denotes the elements of A . Third line denote the size of B and the fourth line denotes the elements of B .

```
6
1 3 4 5 7 9
3
3 6 9
Output: 1 3 3 4 5 6 7 9 9
```

4. Write a program to create a linked list. Perform (a) insertion and deletion at the beginning and end of the list, (b) inserting a new node after a given node in the list (c) deleting a node after a given node in the list.

[You should at least solve part (a) in today's lab]