**LAB 2**

**To create an array of random elements and perform basic operations**

1. **Create a linear array of 5 elements ({1,3,5,7,8}).**

The original array elements are:

LA[0] = 1

LA[1] = 3

LA[2] = 5

LA[3] = 7

LA[4] = 8

1. **Insert Operation**

Insert an item=10 at index 3 of the above given array. The output should looks like

The array elements after insertion:

LA[0] = 1

LA[1] = 3

LA[2] = 5

LA[3] = 10

LA[4] = 7

LA[5] = 8

1. **Deletion Operation**

Delete the items=5, 10. The output should looks like

The array elements after deletion:

LA[0] = 1

LA[1] = 3

LA[2] = 7

LA[3] = 8

1. **Update Operation**

Update the item=5 at index 2 with item=10

The array elements after updating:

LA[0] = 1

LA[1] = 3

LA[2] = 10

LA[3] = 7

LA[4] = 8

***Hints: Follow the given algorithms to perform the operations***

***Algorithm for Insert Operation***

1. Start

2. Set J = N

3. Set N = N+1

4. Repeat steps 5 and 6 while J >= K

5. Set LA[J+1] = LA[J]

6. Set J = J-1

7. Set LA[K] = ITEM

8. Stop

***Algorithm for Delete Operation***

1. Start

2. Set J = K

3. Repeat steps 4 and 5 while J < N

4. Set LA[J] = LA[J + 1]

5. Set J = J+1

6. Set N = N-1

7. Stop

***Algorithm for Update Operation***

1. Start

2. Set LA[K-1] = ITEM

3. Stop