

**Data Structures, 2016**  
**Lab Assignment #5**

*Do the following question before you come to the lab. (Already Discussed in class).*

1. Implement the following:
  - a. Insertion Sort
  - b. Selection Sort
  - c. Bubble Sort
  - d. Linear Search

*In the lab perform the following:*

1. Create an ADT of sparse matrices. This ADT should be specified by the following operations:

Addition

Transpose

Multiplication

Implement this ADT using Arrays and Linked Lists, separately. Analyse the time complexity of all the operations.

2. Create an ADT of polynomial expressions of single variable. The ADT should be specified by the following operations:

Addition

Multiplication

Implement this ADT using Linked Lists. Analyse the time complexity of all the operations.