Programming and Data Structures Lab (CS2710)
Assignment-04: *Linked List*

Lab-work:

1. Implement Polynomial (of a single variable) ADT using: (a) Array and (b) Linked List Representation: To keep Coefficient and Exponent – (a) Use two-field arrays or (b) Use structures as a node of the list
   Operations over the polynomials:
   (a) Print a polynomial (in proper format without redundancy),
   (b) Degree of a polynomial,
   (c) Add two polynomials,
   (d) Subtract two polynomials,
   (e) Multiply two polynomials,
   (f) Evaluate a polynomial (when user inputs a value of polynomial variable)

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Home-work:

1. Implement Sparse Matrix ADT using Linked List and perform the following operations over the Sparse Matrix ADT:
   (a) Determine Number-of-Elements,
   (b) Addition of two Sparse Matrices, and
   (c) Subtraction of two Sparse Matrices

2. Implement:
   (a) Double Linked List ADT, and
   (b) Circular Linked List ADT
   Perform the following operations:
   (a) Is-Empty, (b) Insert-Element, (c) Delete-Element, (d) Insert-Front,
   (e) Delete-Front, (f) Total-Elements, (g) Find-Element, (h) Find-Min-Max

3. Write a program to Reverse a Single Linked List (not only the data, but the nodes together).