**S.Y. B. Tech. Academic Year 2018-19 Trimester: VI**

CS231

**Data Structure-II**

**LABORATORY WRITE UP**

###### Experiment Number: 01

### **TITLE: Polynomial Using Circular Linked List**

**PROBLEM STATEMENT**:

Implement polynomial operations using Circular Linked List: Create, Display, Addition and Evaluation

**OBJECTIVE:**

1. To study data structure: Circular Linked List

2. To Study different operations that could be performed on CLL

3. To Study Applications of Circular Linked list

**THEORY: *//To be Written by Students***

***// Write theory by elaborating below points***

Write in brief about Data structure:

* Circular Linked List
* Difference between SLL,CLL and DLL
* Various operations on CLL.

**IMPLEMENTATION:**

* **PLATFORM:** 
  + 64-bit Open source Linux or its derivatives.
  + Open Source C++ Programming tool like g++/Eclipse Editor.
* I**INPUT & OUTPUT:**

|  |  |  |
| --- | --- | --- |
| **TEST CASE NO** | **INPUT** | **OUTPUT** |
| 01 | 3X^2+5X+9  4X^6+8X | 4X^6+3X^2+13X+9 |

* **TEST CONDITIONS:-**

1. Input at least five nodes.
2. Addition of two polynomials with at least 5 terms.
3. Evaluate polynomial with floating values.

* **PSEUDO CODE: *//To be Written by Students***

Write pseudo code for create, display, Addition and evaluation

* **TIME COMPLEXITY: *//To be Written by Students***

Find out time complexity of above operations

* **CONCLUSION:**

Thus, implemented different operations on CLL.

* **FAQs *//To be Written by Students***
  1. Write an ADT for CLL.
  2. How to perform multiplication of two polynomials?
  3. Write polynomial addition algorithm if terms are not sorted.
* **PRACTICE ASSIGNMENTS**

###### Write a program to multiply two polynomials using CLL.

###### .