**Lab and Home assignments for Day 1 and Day 2**

1. Create 3 matrices MatrixA (3x4),MatrixB (4x3) and MatrixC (3x3) by Dynamic memory allocation. Multiply first two matrices and store the result in the third matrix and display.

2. Instead of asking for the input from user, populate MatrixA and MatrixB by digits 0-9. Then multiply and store result into MatrixC and display.

3. Increase the order of MatrixA and MatrixB as 100x100, 1000x1000 and perform multiplication. Is there any difficulty in these cases? Calculate the time and space taken by each of the multiplication.

4. Consider the order to be nxn where n is in {10000,100000,1000000} and repeat the above exercise. Put the times in a single graph paper for all n.

5. Write a program to reverse the elements of an array without using any other variable.

6. Write a program to add two polynomials using array. Minimize the memory usage as much as you can.

7. Write a program to check whether a matrix is i) identity, ii) diagonal.

For all programs (8-11) print the triple representation of the matrices in row column sorted manner.

8. Write a program to convert a matrix to its triplet representation. Find out whether its beneficial or not.

9. Write a program to manipulate the triplet format of the matrix to find the transpose.

10. Write a program to add two matrices using triplet representation.

11. Write a program to multiply two matrices using triplet representation.