Assignment No. 4

2D and n-D Arrays, Ordered List and Polynomial as array of structure

Aim
1. Write a C++ program for storing matrix. Write functions for a) Check whether given matrix is upper triangular/not b) Compute summation of diagonal elements c) Compute transpose of matrix d) Add, subtract and multiply two matrices 2. Write a C++ program to represent the polynomial of degree *n* as an ordered list of coefficients and write following functions: a) Create polynomial b) Add two polynomials c) Subtract two polynomials d) Multiply two polynomials

Objective(s)	
1	To study basics of sequential organization of data
2	To learn the features of arrays
3	To understand ordered lit and its representation
4	To understand effective use of arrays for representing and manipulating polynomials

Theory

1. Write an algorithm that reverses the elements of an array so that the last element becomes the first, the second to the last becomes the second, and so on.
2. What are 2-Dimensional arrays? Explain following matrix operations with suitable example:
   a) Summation of diagonal of a matrix
   b) Transpose matrix
   c) Addition, subtraction and multiplication of matrices
3. What is an ordered list? Explain basic operations that can be performed on the ordered list with examples.

Conclusion