**Lab Cycle 5**

**(Arrays)**

A. Write a program to read CP marks of 10 students and display the average marks(2M)

Instructions:

1. Declare an array of size 10
2. Read marks in to array
3. Find the sum of the marks stored in array
4. Find average marks and display

B. Write a program to find the minimum element in the array using a function(3M)

Instructions:

1. Declare an array of some size
2. Declare a function that finds minimum with array as the argument
3. Read elements in to the array
4. Call the function that finds minimum
5. Display minimum
6. Define the function after main()

C. Write a program to search for an element in an array(3M)

Instructions:

1. Declare an array of some size
2. Read elements in to the array
3. Read the element to be searched
4. Check every element in the array whether it equals to given element. If it is there give position otherwise state that element not found

*Function can be used for this. However, it is your choice

D. Write a program to display a 3 X 3 unit matrix(2M)

Instructions:

1. Declare and initialize a 2D array with size 3 X 3 and with a unit matrix
2. Display the matrix

E. Write a program to find the sum of two matrices(4M+1M*)

Instructions:

1. Declare three matrices, all of same size
2. Read elements of first matrix and second matrix
3. Add the corresponding elements of the matrices and store the result in third matrix
4. Display third matrix

F. Write a program to find the product of two matrices(4M+1M*)

Instructions:

1. Declare three matrices
2. Read elements of first matrix and second matrix
3. Multiply first two matrices and store the result in third matrix
4. Display third matrix

G. Write a program to find the transpose of a matrix (4M+1M*)

Instructions:

1. Declare a matrix of some size
2. Read elements into the matrix
3. Interchange rows and columns and store this in another matrix
4. Display the result matrix

*One mark will be allotted for using functions.