EAST WEST UNIVERSITY
Department of Computer Science and Engineering
B.Sc. in Computer Science and Engineering Program
Lab 3

Course:	**CSE 110 Object Oriented Programming**
Instructor:	**Sadia Nur Amin, Lecturer, CSE Department**
Topics:	**Array, Multidimensional Array,**
Time:	**3 Hours**

1.	Sum of Elements in a 1D array
2.	Reverse the Elements in a 1D array
3.	Find the Maximum element in a 1D array
4.	Search an element in a 1D array
5.	Remove duplicates from a 1D array
6.	Sort a 1D array in ascending order using Bubble sort
7.	Write a program in Java to find the second smallest element in a 1D array. Input the size of array : 5 Input 5 elements in the array (value must be <9999) : element - 0 : 0 element - 1 : 9 element - 2 : 4 element - 3 : 6 element - 4 : 5 Expected Output : The Second smallest element in the array is : 4
8.	Take input in a 2D array
9.	Sum of Elements in a 2D array
10.	Write a program in Java for multiplication of two square Matrices. Test Data : Input the rows and columns of first matrix : 2 2 Input the rows and columns of second matrix : 2 2 Input elements in the first matrix : element - [0],[0] : 1 element - [0],[1] : 2 element - [1],[0] : 3

	element - [1],[1] : 4 Input elements in the second matrix : element - [0],[0] : 5 element - [0],[1] : 6 element - [1],[0] : 7 element - [1],[1] : 8 Expected Output: The First matrix is : 1 2 3 4 The Second matrix is : 5 6 7 8 The multiplication of two matrix is : 19 22 43 50
11.	Write a program in Java to find sum of right diagonals of a matrix. Test Data : Input the size of the square matrix : 2 Input elements in the first matrix : element - [0],[0] : 1 element - [0],[1] : 5 element - [1],[0] : 8 element - [1],[1] : 2 Expected Output : The matrix is : 1 5 8 4 Addition of the right Diagonal elements is :13
12.	Write a program in Java to calculate determinant of a 2 x 2 matrix. Test Data : Input elements in the first matrix : element - [0],[0] : 1 element - [0],[1] : 0 element - [1],[0] : 0 element - [1],[1] : 0 For a matrix $\begin{bmatrix} a & b \\ c & d \end{bmatrix}$, the determinant $\det$ is calculated as: $\det = ad - bc$