



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

	<p>element - [1],[1] : 4</p> <p>Input elements in the second matrix :</p> <p>element - [0],[0] : 5</p> <p>element - [0],[1] : 6</p> <p>element - [1],[0] : 7</p> <p>element - [1],[1] : 8</p> <p>Expected Output:</p> <p>The First matrix is :</p> <pre>1 2 3 4</pre> <p>The Second matrix is :</p> <pre>5 6 7 8</pre> <p>The multiplication of two matrix is :</p> <pre>19 22 43 50</pre>
11.	<p>Write a program in Java to find sum of right diagonals of a matrix.</p> <p>Test Data :</p> <p>Input the size of the square matrix : 2</p> <p>Input elements in the first matrix :</p> <p>element - [0],[0] : 1</p> <p>element - [0],[1] : 5</p> <p>element - [1],[0] : 8</p> <p>element - [1],[1] : 2</p> <p>Expected Output :</p> <p>The matrix is :</p> <pre>1 5 8 4</pre> <p>Addition of the right Diagonal elements is :13</p>
12.	<p>Write a program in Java to calculate determinant of a 2 x 2 matrix.</p> <p>Test Data :</p> <p>Input elements in the first matrix :</p> <p>element - [0],[0] : 1</p> <p>element - [0],[1] : 0</p> <p>element - [1],[0] : 0</p> <p>element - [1],[1] : 0</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>For a matrix $\begin{bmatrix} a & b \\ c & d \end{bmatrix}$, the determinant det is calculated as:</p> $\det = ad - bc$ </div>