

Online 2

Section E

Time : 45 mins

Marks: 20

1.Modify the binary search algorithm to return the index of the first occurrence of a repeated element in a sorted array.[10]

Input:

arr[] = {2, 4, 5, 5, 7, 8, 8, 8, 10}

Target : 8

Output :

First occurrence of 8 is on index 5

2.Write a linear search algorithm to determine if a given element is present in a two-dimensional matrix, where the matrix is sorted row-wise and column-wise.[10]

Input :

matrix [3][3] = {
 {1, 4, 7},
 {2, 5, 8},
 {3, 6, 9}
}

Target = 5

Output :

Found at matrix[1][1]