भारतीय सूचना प्रौद्योगिकी संस्थान गुवाहाटी
INDIAN INSTITUTE OF INFORMATION TECHNOLOGY GUWAHATI

Data Structure Lab, B.Tech 2nd Semester

Instructions

1. After completion, you can share the files in mail to g1.ds.lab.iiitg@gmail.com.

2. Deadline to submit is 10th May 2022.

Assignment -2

1. Write a C program that takes a sentence as input. Reverse the letters of the words that are of odd length and are in the even position.

   For instance for input string This is an example of a horror movie ;

   the output should be : This is an elpmaxe of a horror eivom

2. Take a two dimentional matrix from the user. Display the matrix. Now take input as a number. Find location of the number in the matrix and display neighbors of the number in sorted order. A number that is not in the matrix boundary will have eight neighbors. For example, For the following matrix

   12 4 8 9
   1 2 88 5
   7 58 6 3
   Neighbors of 2 are 1,12,4,8,88,7,58,6. Neighbors of 3 are 5, 6, 88 . These neighbors should be displayed in sorted order. Assume that every number in the matrix is unique (no repetition).

3. Consider two integer arrays such that the second array contains more elements as compared to the first array. The first array may contain elements which are not present in the second array. Write a program to reorder elements of the second array by the order of elements as in the first array. The elements that are not there in the first array but present in the second array should be sorted and added at the end of the output array. For example,
   Input:
   first = [5, 7, 3, 1, 11]
   second= [5, 7, 10, 3, 5, 7, 1, 3, 6, 9, 3, 5, 1, 9, 2]
   Output:[5, 5, 5,7,7,3, 3,3,1,1,2,6,9,9,10]