PF LAB 8 TASK 3

#include <stdio.h>

#include <limits.h>

int main() {

    int matrix[3][3] = {0};

    // loop to take elements of matrix as user input

    for (int y=0;y<3;y++)

    {

        for (int z=0;z<3;z++)

        {

            printf("Enter the (%d,%d)element of the matrix ",y+1,z+1);

            scanf("%d",&matrix[y][z]);

        }

    }

    // Loop through each row to find saddle points

    for (int i = 0; i < 3; i++) {

        int min = matrix[i][0]; // Assume the first element is the minimum

        int minIndex = 0;

        //TO  find the minimum in the current row

        for (int j = 1; j < 3; j++) {

            if (matrix[i][j] < min) {

                min = matrix[i][j];

                minIndex = j; // To store the index of the minimum

            }

        }

        // Now check if this minimum is the maximum in its column

        int SaddlePoint = 1; // Assume it's a saddle point unless proven that it is not !

        for (int k = 0; k < 3; k++) {

            if (matrix[k][minIndex] > min) {

                SaddlePoint = 0; // If any element in the column is greater, then it's not a saddle point

                break;

            }

        }

        if (SaddlePoint) {

            printf("Saddle point found: %d at row %d, column %d\n", min, i+1, minIndex+1);

        }

       // else{

       //     printf("There is no saddle point in the given matrix.\n");

       // }

    }

    return 0;

}

Output:

