minOfMax2D

Write a C function minOfMax2D() that takes a two-dimensional array matrix of integers ar, and the array sizes for the rows and columns as parameters. The function returns the minimum of the maximum numbers of each row of the 2-dimensional array ar. For example, if the rowSize is 4, colSize is 4, and ar is {{1,3,5,2}, {2,4,6,8}, {8,6,4,9}, {7,4,3,2}}, then the maximum numbers will be 5, 8, 9 and 7 for rows 0, 1, 2 and 3 respectively, and the minimum of the maximum numbers will be 5. The prototype of the function is given as follows:

```c
int minOfMax2D(int ar[][SIZE], int rowSize, int colSize);
```

A sample program is given below to test the function:

```c
#include <stdio.h>
#define SIZE 10
int minOfMax2D(int ar[][SIZE], int rowSize, int colSize);
int main()
{
    int ar[SIZE][SIZE], rowSize, colSize;
    int i,j,min;

    printf("Enter row size of the 2D array: \n");
    scanf("%d", &rowSize);
    printf("Enter column size of the 2D array: \n");
    scanf("%d", &colSize);
    printf("Enter the matrix (%dx%d): \n", rowSize, colSize);
    for (i=0; i<rowSize; i++)
        for (j=0; j<colSize; j++)
            scanf("%d", &ar[i][j]);
    min=minOfMax2D(ar, rowSize, colSize);
    printf("minOfMax2D(): %d\n", min);
    return 0;
}
int minOfMax2D(int ar[][SIZE], int rowSize, int colSize)
{
    /* Write your code here */
}
```

Some sample input and output sessions are given below:

(1) Test Case 1:
Enter row size of the 2D array:
4
Enter column size of the 2D array:
4
Enter the matrix (4x4):
1 2 3 4
2 3 4 5
5 6 7 8
8 10 2 4
minOfMax2D(): 4

```c
int minOfMax2D(int ar[][SIZE], int rowSize, int colSize)
{
    int i,j;
    int c[40];
    int k=0;
    int max;
    int min;

    for(i=0;i<rowSize;i++)
    {
        max = ar[i][0];
        for(j=1;j<colSize;j++)
        {
            if(ar[i][j]>max)
            {
                max = ar[i][j];
            }
        }
        c[k] = max;
        k++;
    }
    min = c[0];
    for(k=0;k<rowSize;k++)
    {
        if(ar[i][j]<min)
        {
            min = ar[i][j];
        }
    }
}
```

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(2) Test Case 2:
Enter row size of the 2D array:
3
Enter column size of the 2D array:
3
Enter the matrix (3x3):
1 -3 3
-3 2 4
3 6 -8
minOfMax2D(): 3

(3) Test Case 3:
Enter row size of the 2D array:
5
Enter column size of the 2D array:
5
Enter the matrix (5x5):
1 2 3 4 5
2 3 4 5 6
5 6 7 8 9
8 10 2 4 7
2 3 4 5 8
minOfMax2D(): 5