Created by Shibaji Paul for Udemy C Programming course

Transpose of matrix is actually changing the rows to column and columns to rows. See the following example:

If the Matrix M is as follows:

4	3	5
2	1	7
6	8	4
2	3	5

Then the transpose of M is:

4	2	6	2
3	1	8	3
5	7	4	5

In this assignment you will write a program that will accept a matrix data from user and will print the transpose of that matrix after printing the matrix as given. You will need to use 2 dimensional arrays for representing the matrix in your program where, the matrix must have row numbers >=3 and <=10 also column numbers >=3 and <=10.

At the beginning of your program ask the user of the program to input number of rows for the matrix, if that is invalid (row numbers must be >=3 and <=10), just display an error message and terminate the program. If that is valid, then ask for the number of columns, check the validity as well for the number of columns, must be >=3 and <=10, if not valid print error message and terminate.

Once you have the valid row and column numbers, declare the 2 dimensional array with them. Then write a nested for loop to input data into the 2-D array.

Print the 2-D array as it is given by the user, then print the transpose of that given array. Please note that you just need to print the transpose of the given array and do not need to change the array to it's transpose form, the content of the array will remain same. Here is expected output.

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Expected output:

Execution 1:

```
Enter number of rows for the matrix (>=3 and <=10): 4
Enter number of columns for the matrix(>=3 and <=10): 3
Matrix[0][0]: 4
Matrix[0][1]: 3
Matrix[0][2]: 5
Matrix[1][0]: 2
Matrix[1][1]: 1
Matrix[1][2]: 7
Matrix[2][0]: 6
Matrix[2][1]: 8
Matrix[2][2]: 4
Matrix[3][0]: 2
Matrix[3][1]: 3
Matrix[3][2]: 5
Matrix as given by you:
     4     3     5
     2     1     7
     6     8     4
     2     3     5


Transpose of the given matrix:
     4     2     6     2
     3     1     8     3
     5     7     4     5
```

Execution 2:

```
Enter number of rows for the matrix (>=3 and <=10): 2
Invalid number of rows, acceptable is >=3 and <=10
```

Execution 3:

```
Enter number of rows for the matrix (>=3 and <=10): 5
Enter number of columns for the matrix(>=3 and <=10): 11
Invalid number of columns, acceptable is >=3 and <=10
Process returned 0 (0x0)   execution time : 5.731 s
Press any key to continue.
```