## Matrix Shuffling

Write a program that reads a matrix, from the console and perform certain operations with its elements. User input is provided in a similar way like in the problems above - first you read the **dimensions** and then the **data**.

Your program should receive commands in the format: **"swap {row1} {col1} {row2} {col2}"** where (**"row1"**, **"col1"**) and (**"row2"**, **"col2"**) are the **coordinates of two points** in the matrix. A **valid** command **starts** with the "**swap**" keyword along with **four valid coordinates** (no more, no less), separated by a single space.

* If the **command is valid**, you should **swap the values** at the given indexes **and print the matrix at each step** (thus you will be able to check if the operation was performed correctly).
* If the **command is not valid** (does not contain the keyword **"swap"**, has **fewer** or **more** coordinates entered or the given coordinates are **not valid**), print **"Invalid input!"** and **move on** to the next command. **A negative value makes the coordinates not valid.**

Your program should finish when the command "**END**" is entered.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 2 3  1 2 3  4 5 6  swap 0 0 1 1  swap 10 9 8 7  swap 0 1 1 0  END | 5 2 3  4 1 6  Invalid input!  5 4 3  2 1 6 |
| 1 2  Hello World  0 0 0 1  swap 0 0 0 1  swap 0 1 0 0  END | Invalid input!  World Hello  Hello World |