## Matrix Shuffling

Write a program that reads a string, 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 format: "**swap row1 col1 row2 col2**" where row1, row2, col1, col2 are **coordinates** in the matrix. For a command to be valid, it should start with the "**swap**" keyword along with **four valid coordinates** (no more, no less). You should **swap the values** at the given **and print the matrix at each step** (thus you'll be able to check if the operation was performed correctly).

If the **command is not valid** (doesn't contain the keyword **"swap"**, has fewer or more coordinates entered or the given coordinates do not exist), print **"Invalid input!"** and move on to the next command. Your program should finish when the string "**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 |