Students order

Java May'19 DSA Linear 2 - 03:40:08

Alpha students love learning new stuff. They also know that in order to better understand and remember new stuff students should change their seats in the room. You are given the names of **N** Alpha students and **K** changes of seats. Your task is to implement an algorithm which displays the final ordering of the students after applying all seat changes.

Input

- Read from the standard input
- On the first line, find the number **N** and **K**
  - **N** - students count
  - **K** - the count of seat changes
- On the next line there will be **N** names
- On the next **K** lines there will be pair of names separated by white space
  - The first name takes the seat next to the second name (first is left, second is right)
- See sample tests for explanation

Output

- Print on the standard output
- On a single line, print the final order of the student names

Constraints

- 1 <= N <= 2000
- 1 <= K <= 100 000
- each name contains only alphanumeric characters

Sample tests

Input

Submit solution

My submissions
All submissions
Best submissions

Points: 100 (partial)
Time limit: 0.175s
Java: 5.0s
Memory limit: 32M
Java: 32M
Author: viktor

Tags
Linear Data Structures
Difficulty
Intermediate

Allowed languages
java

```
Miro Gosho
Gosho Stanka
Stanka Miro
```

Output

```
Stanka Miro Tosho Penka Gosho
```

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Explanation

- First **Miro** seats next to **Gosho**, so the order is - **Miro Gosho Tosho Penka Stanka**
- Next **Gosho** seats next to **Stanka**, so the order is - **Miro Tosho Penka Gosho Stanka**
- At last **Stanka** seats next to **Miro**, so the final order is **Stanka Miro Tosho Penka Gosho**

Input

```
7 4
Emo Misho Ivanka Ginka Vancho Stancho Sashka
Emo Misho
Misho Emo
Misho Sashka
Sashka Stancho
```

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Output

Clarifications

No clarifications have been made at this time.