SAC '22 Code Challenge 5 Junior P4 - Course Requirements

Time limit: 1.0s **Memory limit:** 256M
Java: 1.5s

Since Max is heading off to university, he needs to create a course schedule for N courses.

However, each course has C_i prerequisites, and Max cannot schedule properly.

Can you tell Max the order to take his courses to satisfy the prerequisites?

Constraints

$1 \leq N \leq 2 \times 10^5$

$0 \leq C_i < N$

$\sum_{i=1}^{N} C_i \leq \min(\frac{N(N-1)}{2}, 2 \times 10^5)$

It is always possible to generate a course schedule that does not conflict (i.e., it is possible to take every course without missing a prerequisite).

Subtask 1 [40%]

$1 \leq N \leq 10$

Subtask 2 [60%]

No additional constraints.

Input Specification

The first line will contain an integer, N, the number of courses in the schedule.

The next N lines will contain an integer, C_i, and C_i integers, representing the number of prerequisites for the i^{th} course and its prerequisites.

Output Specification

Output any valid permutation of the N courses, where each course is not missing a prerequisite when it is taken.

Sample Input

```
5
0
0
3 1 2 5
3 1 2 3
1 2
```

Sample Output

```
1 2 5 3 4
```