Where's My Internet??

Problem ID: wheresmyinterr
CPU Time limit: 5 seconds
Memory limit: 1024 MB
Difficulty: 3.2

Author(s): Bjarki Ágúst Guðmundsson
Source: Icelandic High Schoo Competition 2014
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A new town is being built far out in the country, and currently there are N houses. People have already started moving in. However, some of the houses aren't connected to the internet yet, and naturally residents are outraged.

Photo by Jerry John from Flickr

The houses are numbered 1 to N. House number 1 has already been connected to the internet via a long network cable to a neighboring town. The plan is to provide internet to other houses by connecting pairs of houses with separate network cables. A house is connected to the internet if it has a network cable to another house that's already connected to the internet.

Given a list of which pairs of houses are already connected by a network cable, determine which houses are not yet connected to the internet.

Input

The first line of input contains two integers $1 \leq N, M \leq 200\,000$, where N is the number of houses and M is the number of network cables already deployed. Then follow M lines, each containing a pair of house numbers $1 \leq a, b \leq N$ meaning that house number a and house number b are already connected by a network cable. Each house pair is listed at most once in the input.

Output

If all the houses are already connected to the internet, output one line containing the string `Connected`. Otherwise, output a list of house numbers in increasing order, one per line, representing the houses that are not yet connected to the internet.

Sample Input 1

```
6 4
1 2
2 3
3 4
5 6
```

Sample Output 1

```
5
6
```

Sample Input 2

```
2 1
2 1
```

Sample Output 2

```
Connected
```

Sample Input 3

```
4 3
2 3
4 2
3 4
```

Sample Output 3

```
2
3
4
```