Stars in the Sky

Mouse Stofl wants to decorate the ceiling above his bead with some graph. In order that Stofl can sleep well, the ceiling must look like the night sky. The graphs should represent the stars and must thus look star-like.

A graph is star-like if the follow conditions hold.

- There is a center vertex which is connected to every other vertex by an edge.
- The other vertices are only connected to the center vertex by an edge.

Input

The first line of the input contains two integers N and M ($1 \leq N, 0 \leq M$) – the number of nodes and edges in the graph.

Each of the following M lines contains two integers a_i and b_i ($0 \leq a_i, b_i < N, a_i \neq b_i$) denoting an edge between node a_i and node b_i. Each pair of vertices a, b is given at most once.

Output

If the graph is star-like, print a single line with "star". Otherwise print a line with "other".

Limits

There are four groups of test, each of which is worth 25 points.

- In the first test group $N, M \leq 100$
- In the second test group $N, M \leq 1\,000$
- In the third test group $N, M \leq 10\,000$
- In the fourth test group $N, M \leq 100\,000$

Examples

Input	Output
4 3 0 1 0 2 3 0	star

Input	Output
4 3 2 3 3 1 0 2	other

Input	Output
1 0	star

Input	Output
2 1 1 0	star

Input	Output
4 4 0 1 1 3 3 2 2 0	other

Input	Output
6 5 0 4 2 5 5 1 3 1 3 2	other