



C. Industrial Nim

time limit per test: 2 seconds
 memory limit per test: 64 megabytes

There are n stone quarries in Petrograd.

Each quarry owns m_i dumpers ($1 \leq i \leq n$). It is known that the first dumper of the i -th quarry has x_i stones in it, the second dumper has $x_i + 1$ stones in it, the third has $x_i + 2$, and the m_i -th dumper (the last for the i -th quarry) has $x_i + m_i - 1$ stones in it.

Two oligarchs play a well-known game Nim. Players take turns removing stones from dumpers. On each turn, a player can select any dumper and remove any non-zero amount of stones from it. The player who cannot take a stone loses.

Your task is to find out which oligarch will win, provided that both of them play optimally. The oligarchs asked you not to reveal their names. So, let's call the one who takes the first stone «tolik» and the other one «bolik».

Input

The first line of the input contains one integer number n ($1 \leq n \leq 10^5$) — the amount of quarries. Then there follow n lines, each of them contains two space-separated integers x_i and m_i ($1 \leq x_i, m_i \leq 10^{16}$) — the amount of stones in the first dumper of the i -th quarry and the number of dumpers at the i -th quarry.

Output

Output «tolik» if the oligarch who takes a stone first wins, and «bolik» otherwise.

Examples

input	Copy
2 2 1 3 2	
output	Copy
tolik	

input	Copy
4 1 1 1 1 1 1 1 1	
output	Copy
bolik	

→ Attention

The package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, a solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then the value 800 ms will be displayed and used to determine the verdict.

Codeforces Beta Round 15

Finished

Practice



→ Virtual participation

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Start virtual contest

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Clone Contest

→ Submit?

Language: GNU G++23 14.2 (64 bit, ms) ▼

Choose file: Choose File No file chosen

Submit

→ Last submissions




Submission	Time	Verdict
326636161	Jun/30/2025 13:01	Accepted

→ **Problem tags**

games *2000

No tag edit access

→ **Contest materials**

- Announcement 
- Tutorial #1 (ru) 
- Tutorial #2 (en) 

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