Mock CCO '19 Contest 1 Problem 6 - A Geometry Problem

Time limit: 0.6s **Memory limit:** 162M

N lines are drawn in the xy-plane. List the lines which have a segment of positive length that is visible from $y = +\infty$.

Constraints

$1 \leq N \leq 5 \cdot 10^4$

$-5 \cdot 10^5 \leq A_i, B_i \leq 5 \cdot 10^5$

In test data worth 30% of marks, you may assume $N \leq 5000$.

The data guarantee that there are no two identical lines.

Input Specification

The first line contains a single positive integer, N.

Each of the next N lines contains two space-separated integers A_i and B_i, indicating that a line of the form $y = A_i x + B_i$ is drawn. These lines have IDs from 1 to N in input order.

Output Specification

Output on a single line, in increasing order, the IDs of the lines which are visible. The list should be space-separated.

Sample Input

```
3
1 0
-1 0
0 0
```

Sample Output

```
1 2
```