B. Vasya and Wrestling

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Vasya has become interested in wrestling. In wrestling wrestlers use techniques for which they are awarded points by judges. The wrestler who gets the most points wins.

When the numbers of points of both wrestlers are equal, the wrestler whose sequence of points is **lexicographically greater**, wins.

If the sequences of the awarded points coincide, the wrestler who performed the last technique wins. Your task is to determine which wrestler won.

Input

The first line contains number n — the number of techniques that the wrestlers have used ($1 \le n \le 2 \cdot 10^5$).

The following n lines contain integer numbers a_i ($|a_i| \le 10^9$, $a_i \neq 0$). If a_i is positive, that means that the first wrestler performed the technique that was awarded with a_i points. And if a_i is negative, that means that the second wrestler performed the technique that was awarded with $(-a_i)$ points.

The techniques are given in chronological order.

Output

If the first wrestler wins, print string "`first`", otherwise print "`second`"

Examples

input
5 1 2 -3 -4 3
output
second

input
3 -1 -2 3
output
first

input
2 4 -4
output
second

Note

Sequence $x = x_1 x_2 \ldots x_{|x|}$ is **lexicographically larger** than sequence $y = y_1 y_2 \ldots y_{|y|}$, if either $|x| > |y|$ and $x_1 = y_1,\ x_2 = y_2, \ldots,\ x_{|y|} = y_{|y|}$, or there is such number r ($r < |x|, r < |y|$), that $x_1 = y_1,\ x_2 = y_2,\ \ldots,\ x_r = y_r$ and $x_{r+1} > y_{r+1}$.

We use notation $|a|$ to denote length of sequence a.