Problem E. Estimation of products

Multiplying consecutive integers is a hard and boring job. For example, $3 \times 4 \times 5 \times 6 \times 7 = 2520$ is hard to calculate. So, given two integers a and b ($a \leq b$) we are just interested in the sign of the product $a \times (a + 1) \times \cdots \times b$. Note that if $a = b$, we consider the value of the product as a.

However, this might be also a little boring, so we decided to give you n pairs of integers a_i and b_i ($a_i \leq b_i$). Write a program that determines the sign of the product $\{a_1 \times (a_1 + 1) \times \cdots \times b_1\} \times \{a_2 \times (a_2 + 1) \times \cdots \times b_2\} \times \cdots \times \{a_n \times (a_n + 1) \times \cdots \times b_n\}$.

Input

Your input consists of an arbitrary number of records, but no more than 100.

Each record consists of several lines. The first line contains an integer n. ($1 \leq n \leq 100$) Next n line(s) contains a_i and b_i ($-10^9 \leq a_i \leq b_i \leq 10^9$), separated by a space.

The end of input is indicated by a line containing only the value -1.

Output

For each input record, determine the sign of the product and print:

- "+" (without quotes) if the product is positive,
- "0" (without quotes) if the product is zero,
- "-" (without quotes) if the product is negative.

Example

Standard input	Standard output
2 1 5 -3 -1 1 0 10 -1	- 0

Explanation of the example

For the first example: $\{1 \cdot 2 \cdot 3 \cdot 4 \cdot 5\} \times \{(-3) \cdot (-2) \cdot (-1)\} = -720$.

For the second example: $0 \cdot 1 \cdot 2 \cdot 3 \cdot 4 \cdot 5 \cdot 6 \cdot 7 \cdot 8 \cdot 9 \cdot 10 = 0$.

Time Limit

1 second.