Solution Preparation

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

There are n cups of water on the table, each containing vitamin A and vitamin C. The concentrations of vitamin A and vitamin C in the i-th cup are a_i and c_i, respectively.

There are m orders, and each order requires a specified cup of water whose concentrations of vitamin A and vitamin C are Qa_i and Qc_i respectively. Please help determine whether the requirement of each order can be met. Note that you don't have to worry about that the n cups of water on the table being used up since they are in unlimited supply.

Input

The first line contains two integers $n(2 \leq n \leq 100)$ and $m(1 \leq m \leq 100)$, indicating the cups of water on the table, and the number of orders.

The $i + 1(1 \leq i \leq n)$ line contains two integers, a_i and $b_i(1 \leq a_i, b_i, a_i + b_i \leq 100)$, indicating the concentration of vitamin A and vitamin C of the i-th cup of water on the table.

The $n + i + 1(1 \leq i \leq m)$ line contains two integers, Qa_i and Qb_i $(1 \leq Qa_i, Qb_i, Qa_i + Qb_i \leq 100)$, indicating the requirement of the i-th order.

Output

Output m lines, each line should be either "YES" or "NO", indicating whether whether the requirement of each order can be met.

Example

standard input	standard output
2 2 10 20 30 50 20 35 35 55	YES NO