

Orders

Input file: standard input
Output file: standard output
Time limit: 1 second
Memory limit: 1024 megabytes

A factory receives n orders at the beginning of day 1. The i -th order can be described as two integers a_i and b_i , indicating that at the end of day a_i , the factory needs to deliver b_i products to the customer.

Given that the factory can produce k products each day, and at the beginning of day 1 the factory has no product in stock, can the factory complete all orders?

Input

There are multiple test cases. The first line of the input contains an integer T ($1 \leq T \leq 100$) indicating the number of test cases. For each test case:

The first line contains two integers n and k ($1 \leq n \leq 100$, $1 \leq k \leq 10^9$) indicating the number of orders and the number of products the factory can produce each day.

For the following n lines, the i -th line contains two integers a_i and b_i ($1 \leq a_i, b_i \leq 10^9$) indicating that the i -th order require the factory to deliver b_i products at the end of day a_i .

Output

For each test case output one line. If the factory can complete all orders output Yes, otherwise output No.

Example

standard input	standard output
2	Yes
4 5	No
6 12	
1 3	
6 15	
8 1	
3 100	
3 200	
4 300	
6 100	

Note

For the first sample test case, the factory can produce 5 products each day.

- At the end of day 1, there are 5 products in stock so the factory can complete the 2-nd order. After delivery, there are 2 products left in stock.
- At the end of day 6, the factory produces 25 more products. There are 27 products in stock so the factory can complete the 1-st and the 3-rd order. After delivery, there are 0 products left in stock.
- At the end of day 8, the factory produces 10 more products. There are 10 products in stock so the factory can complete the 4-th order. After delivery, there are 9 products left in stock.

For the second sample test case, the factory can produce 100 products each day.

- At the end of day 3, there are 300 products in stock and the factory can complete the 1-st order. After delivery, there are 100 products left in stock.

- At the end of day 4, the factory produces 100 more products. There are only 200 products in stock so the factory cannot complete the 2-nd order.