Getting to Crave

Madhav wants to bunk class and go to Crave to eat their Red Velvet pastry. To do this, he starts at MIT Main Gate which is **D** km away from Crave on a straight road where the kilometres are marked along the road. MIT Main Gate is at kilometre 0.

On this road, **N** other friends of Madhav are travelling to Crave as well. Every **i-th** friend starts at kilometre **K(i)** and is always travelling at a speed of **S(i)** km/h. As friends like to go together, no friend F(i) will pass another friend F(j) who started ahead of him, but will instead slow down to the speed of friend F(j) if he catches up him.

Madhav has no particular speed and can go to Crave as fast as he wants. However, to make his work easier, he decides to choose a *single* speed for himself such that he will never have to pass a friend on the way. What is the maximum such speed he can choose?

Input Format

There are **T** test cases.

Each test case begins with two integers **D** and **N**; the distance to Crave and the number of Madhav's friends on the road.

N lines follow, the i-th line containing the two integers **K(i)** and **S(i)**, the starting position (in km) and speed (in km/h) of the i-th friend respectively.

Constraints

1 <= T <= 10

0 < K(i) < D < 10^9

K(i) != K(j) (No two friends start together)

1 <= S(i) <= 10^9

Output Format

For each test case, the output is a single line containing the maximum speed Madhav can walk at so that he never passes any of his friends. Print answer with 4 or more decimal places.

Sample Input 0

```
1
300 2
120 60
60 90
```

Sample Output 0

```
100.000000
```