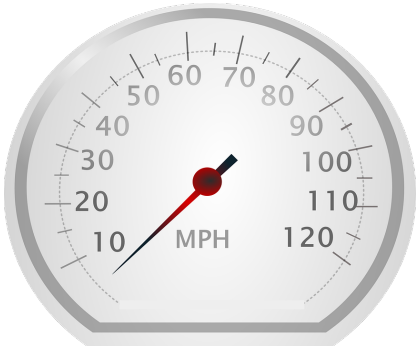
Problem E
Need for Speed
Time limit: 1 second

Sheila is a student and she drives a typical student car: it is old, slow, rusty, and falling apart. Recently, the needle on the speedometer fell off. She glued it back on, but she might have placed it at the wrong angle. Thus, when the speedometer reads s, her true speed is $s + c$, where c is an unknown constant (possibly negative).



Sheila made a careful record of a recent journey and wants to use this to compute c. The journey consisted of n segments. In the i^{th} segment she traveled a distance of d_i and the speedometer read s_i for the entire segment. This whole journey took time t. Help Sheila by computing c.

Note that while Sheila's speedometer might have negative readings, her true speed was greater than zero for each segment of the journey.

Input

The first line of input contains two integers n ($1 \leq n \leq 1\,000$), the number of sections in Sheila's journey, and t ($1 \leq t \leq 10^6$), the total time. This is followed by n lines, each describing one segment of Sheila's journey. The i^{th} of these lines contains two integers d_i ($1 \leq d_i \leq 1\,000$) and s_i ($|s_i| \leq 1\,000$), the distance and speedometer reading for the i^{th} segment of the journey. Time is specified in hours, distance in miles, and speed in miles per hour.

Output

Display the constant c in miles per hour. Your answer should have an absolute or relative error of less than 10^{-6}.

Sample Input 1	Sample Output 1
3 5 4 -1 4 0 10 3	3.000000000

Sample Input 2	Sample Output 2
4 10 5 3 2 2 3 6 3 1	-0.508653377