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C. Pair Selection

time limit per test: 2 seconds memory limit per test: 512 megabytes input: standard input output: standard output

Given n pairs of positive integers $(a_1,b_1),(a_2,b_2),\ldots,(a_n,b_n)$. Select k $(1\leq k\leq n)$ of them i_1,i_2,\ldots,i_k so that the ratio $\frac{a_{i_1}+a_{i_2}+\cdots+a_{i_k}}{b_{i_1}+b_{i_2}+\cdots+b_{i_k}}$ is maximum possible.

Input

The first line contains integers n and k ($1 \le k \le n \le 10^5$). The next n lines contain pairs of integers a_i, b_i ($1 \le a_i, b_i \le 10^5$).

Output

Print the required maximum ratio. The answer will be considered correct if the relative or absolute error does not exceed 10^{-6} .

Examples

1.8571428571

input	Сору
3 2	
10 3	
9 5	
7 4	
output	Сору
2.4285714286	
input	Сору
8 3	
4 2	
4 2	
2 2	
1 5	
5 3 3 5	
2 2	
5 3	
output	Сору

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