Demiana has $n$ jewelry. Each jewel has value $v_i$ and weight $w_i$.

Since her husband, Johnny, was fired in connection with the latest financial crisis, Demiana has decided to sell several jewelry.

For herself, she decided to leave only $k$ best. The best in terms of maximizing a rather specific expression: let her leave for herself the jewelry number $i_1, i_2, \ldots, i_k$, then the maximum should be

$$\sum_{j=1}^{k} v_{i_j} \Big/ \sum_{j=1}^{k} w_{i_j}.$$

Help the Demians determine what maximum value of this value can be obtained by choosing $k$ jewels in the required way.

The first line of input contains the numbers $n$ and $k$ ($1 \le k \le n \le 1000$).

The next $n$ lines contain pairs of integers $v_i$, $w_i$ ($0 \le v_i \le 10^6$, $1 \le w_i \le 10^6$). The sum of all $v_i$ does not exceed $10^7$, the sum of all $w_i$ also does not exceed $10^7$.

Print one real number – the maximum value of the desired quantity. The answer must be rounded and displayed with an accuracy of **exactly** 5 decimal places.

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**Sample input:**

3 2
1 1
1 2
1 3

**Sample output:**

0.66667