Improve the Team! (lootboxes)

William was very bored during lockdown, so he decided to download a soccer game on his smartphone. Since then, he has played a lot of matches and he has earned X coins in total. However, winning is becoming increasingly difficult so he needs to improve his team with new players.

Figure 1: One of the possible loot boxes.

In order to do so, he wants to spend the coins he has earned to open some of the N loot boxes available. The i-th loot box has probability P_i of containing a good player and costs Q_i coins. Each probability P_i is an integer number between zero and one hundred, representing the probability as a percentage. Can you help William decide which loot boxes to open in order to maximize the expected number of good players he can get?

☞ Among the attachments of this task you may find a template file `lootboxes.*` with a sample incomplete implementation.

Input

The first line contains two integers N and X. Then N lines follow, the i-th line contains two integers P_i and Q_i.

Output

You need to write a single line with an integer: the maximum expected number of good players William might find in the loot boxes, expressed as a percentage.

Constraints

- $1 \leq N \leq 5000$.
- $1 \leq X \leq 10\,000$.
- $0 \leq P_i \leq 100$ for each $i = 0 \ldots N-1$.

- $1 \leq Q_i \leq 10\,000$ for each $i = 0 \ldots N-1$.

Scoring

Your program will be tested against several test cases grouped in subtasks. In order to obtain the score of a subtask, your program needs to correctly solve all of its test cases.

– **Subtask 1** (0 points) Examples.

– **Subtask 2** (20 points) $N \leq 20$.

– **Subtask 3** (45 points) $N \cdot X \leq 10^6$.

– **Subtask 4** (35 points) No additional limitations.

Examples

input	output
6 3 70 1 54 3 20 1 9 1 20 2 33 1	123

Explanation

In the **first sample case**, the maximum expected number of good players William can get is 1.23, or 123% as percentage. In order to do so, he can open the first, third and sixth loot boxes paying a total of $1 + 1 + 1 = 3$ coins. In this case, the expected value is $1 \cdot 70\% + 1 \cdot 20\% + 1 \cdot 33\% = 123\%$.