**FatMouse' Trade**

**Time Limit: 2000/1000 MS (Java/Others)    Memory Limit: 65536/32768 K (Java/Others)  
Total Submission(s): 47300    Accepted Submission(s): 15928**

**Problem Description**

FatMouse prepared M pounds of cat food, ready to trade with the cats guarding the warehouse containing his favorite food, JavaBean.  
The warehouse has N rooms. The i-th room contains J[i] pounds of JavaBeans and requires F[i] pounds of cat food. FatMouse does not have to trade for all the JavaBeans in the room, instead, he may get J[i]\* a% pounds of JavaBeans if he pays F[i]\* a% pounds of cat food. Here a is a real number. Now he is assigning this homework to you: tell him the maximum amount of JavaBeans he can obtain.

**Input**

The input consists of multiple test cases. Each test case begins with a line containing two non-negative integers M and N. Then N lines follow, each contains two non-negative integers J[i] and F[i] respectively. The last test case is followed by two -1's. All integers are not greater than 1000.

**Output**

For each test case, print in a single line a real number accurate up to 3 decimal places, which is the maximum amount of JavaBeans that FatMouse can obtain.

**Sample Input**

5 3

7 2

4 3

5 2

20 3

25 18

24 15

15 10

-1 -1

**Sample Output**

13.333

31.500

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**Source**

[ZJCPC2004](http://acm.hdu.edu.cn/search.php?field=problem&key=ZJCPC2004&source=1&searchmode=source)

**Recommend**

JGShining   |   We have carefully selected several similar problems for you:  [1789](http://acm.hdu.edu.cn/showproblem.php?pid=1789) [1257](http://acm.hdu.edu.cn/showproblem.php?pid=1257) [2187](http://acm.hdu.edu.cn/showproblem.php?pid=2187) [1800](http://acm.hdu.edu.cn/showproblem.php?pid=1800) [2570](http://acm.hdu.edu.cn/showproblem.php?pid=2570)