

# Exploit Resources

Input file:            **standard input**  
Output file:        **standard output**  
Time limit:        1 second  
Memory limit:     256 megabytes

Meow drives a spaceship with a drill and fly over  $n$  planets, in sequence of increasing order. The spaceship initially has a power level of  $l$ .

Planets are divided into two categories: resource-based and maintenance-based. Assume of current power level of the drill as  $p$ .

1. Resource based: It contains mineral content  $a_i$   
If you choose to mine, you will get  $a_i \times p$  money, and then the drill bit power level will degrade by  $k\%$ , that is,  $p = p \times (1 - 0.01k)$ .
2. Maintenance based: It contains maintenance fee  $b_i$   
If you choose maintenance, you will pay  $b_i \times p$  money, and then the drill will be repaired by  $c\%$ , that is,  $p = p \times (1 + 0.01c)$ .

Note: The power level of the drill bit can exceed the initial value after repair (you can think of it as refurbishment + upgrade). Furthermore, money can be overdrawn.

As the captain of the spaceship, Meow would like to know his maximum income.

## Input

The first line of the input contains 4 integers  $n, k, c, l$ , representing the number of planets, drill degradation rate, drill reparation rate, and initial drill power level, respectively. ( $0 \leq n \leq 100000; 0 \leq k, c, l \leq 100$ )

The next  $n$  lines contain two integers, type of planet,  $type$  and the value for that planet,  $value$ .

1.  $type = 1$  means resource-based,  $value$  is its mineral content  $a_i$ . ( $0 \leq a_i \leq 100$ )
2.  $type = 2$  means maintenance-based,  $value$  is its maintenance fee  $b_i$ . ( $0 \leq b_i \leq 100$ )

## Output

Output the maximum possible income for Meow, print your answer with accuracy up to 2 decimal places, rounded off. It is guaranteed that the answer is less than  $10^9$ .

## Example

standard input	standard output
5 50 50 10 1 10 1 20 2 10 2 20 1 30	375.00