

# Back To School '17: Avalon

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**Time limit:** 2.0s    **Memory limit:** 256M

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vev is addicted to the game [Avalon](#). She is currently playing a game and wants to make an informed decision on who to put on her quest. There are  $G$  distinct groups of players, each with  $p_g$  players. Of the  $p_g$  players in the group,  $e_g$  of them are considered to be evil ( $e_g \leq p_g$ ). Assuming vev chooses a single player randomly from each group, what is the probability that she selects zero evil players?

## Input Specification

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The first line contains an integer  $G$ , representing the number of distinct groups of players.

The next  $G$  lines each contain two space separated integers  $e_g$  and  $p_g$ , the number of evil players in the group, and the total players in the group respectively.

## Constraints

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$$1 \leq G \leq 1000$$

$$0 \leq e_g \leq p_g$$

$$1 \leq p_g \leq 10^9$$

## Output Specification

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Print the probability that she chooses zero evil players. Your answer will be considered correct if it is within  $10^{-6}$  of the judge's answer.

## Sample Input 1

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```
2
2 4
1 2
```

## Sample Output 1

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0.25
```

## Sample Input 2

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```
2
0 10
10 10
```

## Sample Output 2

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```
0
```