# Problem 2 – Royal NonStop

The Royal NonStop is a regular non-stop shop in which Royal works. Royal, proclaimed that this shop is royal because he didn’t want to feel shame for working in just a normal street-corner shop, which sells lukanka and rakija.

You will be given **n** and **m**, 2 integers separated by a space – the dimensions of a matrix, the size of the non-stop shop. You will then be given two **floating** **point** numbers, separated by a space – the price for the lukanka and the price for the rakija.

Royal has a few regular drunk customers, which come in late at night, go at a specific stall, buy something from it and then, while walking to Royal on the pay desk, they buy everything on their path. You will start receiving two integers separated by a space which will represent **row** and **column** in the matrix, on each line. That is where the customer goes initially. On every even row there is lukanka, and on every odd – rakija. He buys the product at that cell and starts going towards the first cell of the matrix (the top-left).

If the **given row** is **smaller** than the **given column**, the customer first **goes** **up** to the top row, and then starts going left to the first cell. If the row is **more or equal** to the column the customer first **goes left** to the left-most column and then goes up to the first cell. The first cell is **always** the pay desk so the customer buys nothing there, he only pays. For every step the customer makes he buys the product at that cell, either lukanka or rakija, depending on the row. The price of the product is – **(row \* col) \* product price**. For this formula **ONLY**, count the first row and the first column as **1**.

When the customer reaches the pay desk, he pays the total price for all of his products and goes home to drink and eat. When you receive the command “Royal Close”, the input ends. Then you print the total money Royal earned that day, and the amount of customers he had.

### Input

* The first input line will contain the dimensions of the matrix, separated by a space.
* The second line will contain the prices of the products, separated by a space, first the lukanka price, and then the rakija price.
* Then you will get several lines containing two integers separated by a space which will be the customer row and column.
* When you receive the command “Royal Close” the input ends.

### Output

* The output is simple. You must print the total money Royal earned that day, rounded **the default way** **and** printed to the **6th** **digit** after decimal point, and the count of customers, each on a new line.

### Constraints

* The dimensions of the matrix will be **integers** in the range [4, 10000].
* The prices of the products will be **floating** **point** numbers in the range [-264, 264].
* The amount of customers Royal can have is in the range [0, 1000].
* The given row and column, representing the initial customer cell, will **always** be in the range of the matrix.
* Allowed time/memory: 100ms/16MB.

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| **Input** | **Output** | **Comment** |
| 10 10  10 10  9 9  Royal Close | 5940.000000  1 | D L L L L L L L L L  R R R R R R R R R R  L L L L L L L L L L  R R R R R R R R R R  L L L L L L L L L L  R R R R R R R R R R  L L L L L L L L L L  R R R R R R R R R R  L L L L L L L L L L  R R R R R R R R R R  The first cell is the payment desk – D  Even and odd rows hold lukanka – L, and rakija – R. “9 9” is the last cell (by indexes) so we start from it. The row is >= column, so we go first left and then up. |

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| **Input** | **Output** |
| 100 100  254.452 361.163  2 2  56 54  99 99  12 84  Royal Close | 209998922.870000  4 |