

CSoD: QCart Discounts

You are going to implement shopping cart final price calculation logic for QCart.

QCart has following types of discounts and constraints:

1) Basic discount on each item they sell, which is a discount from MRP

1.

3) Basket discount will be applied on top of basic discount

4) Each item will also have a maximum discount percentage

Read further, the examples should make it clear.

You are given:

1. Basket discount with multiple slabs

2. List of items with "item name, MRP, basic discount percentage, max discount percentage"

You need to calculate the final price of cart:

1. Apply basic discount on each item which will get you a cart value

2. Based on the cart value, find out the right slab discount %

3. Apply the slab discount % on items with max discount constraint

Input Format

m

slab_amount1 slab_discount1

slab_amount2 slab_discount2

...

slab_amount_m slab_discount_m

n

item1 item1_mrp item1_basic_discount item1_max_discount

item2 item2_mrp item2_basic_discount item2_max_discount

...

item_n item_n_mrp item_n_basic_discount item_n_max_discount

Input Values & Type

m - number of different basket discount entries upto 100

n - number of items in the cart upto 100000

Each item will have the following elements separated by space

slab_amount - minimum amount where the given basket discount applies and value range is [0, 10000]

basket_discount - integer percentage of basket discount applicable and value range is [0, 100]

item_name - string upto 32 chars

item_mrp - integer and value range is [0, 5000]

basic_discount - integer representing the percentage of discount and value range is [0, 100]

max_discount - integer representing the percentage of maximum discount and value range is [0, 100]

Constraints

None

Output Format

Print the final cart price after rounding to 2 decimal places

Sample Input 0

```
1
1000 20
3
tshirt 900 10 10
shirt 1400 5 25
cap 275 10 40
```

Sample Output 0

```
2072.00
```

Explanation 0

Step 1: Apply basic discount

Items prices after basic discount as follows:

tshirt 810

shirt 1330

cap 247.50

Calculation

- tshirt price calculation after basic discount 900-90
- shirt price calculation after basis discount 1400-70
- cap price calculation after basic discount 275-27.5

Step 2: Apply basket discount with max discount constraint

After applying the basic discount on each items, cart value is 2387.5.

Now based on the cart value, Basket discount applicable is 20%. With application of basket discount and constraint of max discount items prices are as follows:

tshirt 810

shirt 1064

cap 198

Calculation

- tshirt price after basket discount is 648. tshirt price after max discount is 810. Hence the tshirt price after basket discount remains at 810
- shirt price after basket discount is 1064. This falls within the max discount limit of 25%
- cap price after basket discount is 198. This also falls within the max discount limit of 40%

Step 3: Calculate final cart price

Now adding all three item prices, you get the final cart value which is the sum of 810, 1064 and 198 => 2072.00.