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# Problem: Week 7 - Analyze sales order of an e-commerce company

### Description

Data about sales in an e-commerce company (the e-commerce company has several shops) consists a sequence of lines, each line (represents an order) has the following information:

<CustomerID> <ProductID> <Price> <ShopID> <TimePoint>

in which the customer <CustomerID> buys a product <ProductID> with price <Price> at the shop <ShopID> at the time-point <TimePoint>

- <CustomerID>: string of length from 3 to 10
- <ProductID>: string of length from 3 to 10
- <Price>: a positive integer from 1 to 1000
- <ShopID>: string of length from 3 to 10
- <TimePoint>: string representing time-point with the format HH:MM:SS (for example, 09:45:20 means the time-point 9 hour 45 minutes 20 seconds)

Perform a sequence of queries of following types:

• ?total\_number\_orders: return the total number of orders

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- ?total\_revenue: return the total revenue the e-commerce company gets
- ?revenue\_of\_shop <ShopID>: return the total revenue the shop <ShopID> gets
- ?total\_consume\_of\_customer\_shop <CustomerID> <ShopID>: return the total revenue the shop <ShopID> sells products to customer <CustomerID>
- ?total\_revenue\_in\_period <from\_time> <to\_time>: return the total revenue the ecommerce gets of the period from <from\_time> to <to\_time> (inclusive)

#### Input

The input consists of two blocks of data:

The first block is the operational data, which is a sequence of lines (number of lines can be upto 100000), each line contains the information of a submission with above format

The first block is terminated with a line containing the character #

The second block is the query block, which is a sequence of lines (number of lines can be upto 100000), each line is a query described above

The second block is terminated with a line containing the character #

#### **Output**

Write in each line, the result of the corresponding query

#### **Example**

#### Input

C001 P001 10 SHOP001 10:30:10

C001 P002 30 SHOP001 12:30:10

C003 P001 40 SHOP002 10:15:20

C001 P001 80 SHOP002 08:40:10

C002 P001 130 SHOP001 10:30:10

C002 P001 160 SHOP003 11:30:20

#

?total\_number\_orders

?total\_revenue

?revenue\_of\_shop SHOP001

?total\_consume\_of\_customer\_shop C001 SHOP001

?total\_revenue\_in\_period 10:00:00 18:40:45

#

#### Output

6

450

170

40

370

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## Sample TestCase

C 17

1 Write your Source code here

## Source code

int main()

#include <stdio.h>

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