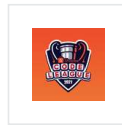


## Shopee Programming Contest

Logout

02 : 58 : 08  
HRS MIN SEC

## Shopee Programming Contest

LIVE INVITE ONLY ACCESS

Mar 20, 2021, 01:00 PM WIB - Mar 20, 2021, 04:00 PM WIB

INSTRUCTIONS PROBLEMS SUBMISSIONS LEADERBOARD ANALYTICS JUDGE

[← Problems / Order Delivery](#)

## Order Delivery

Max. score: 20

In the parallel universe, where there are 13 months, Shopee has a 13.13 campaign. During this 13.13 campaign, Shopee gives free shipping delivery vouchers to all users who buy the item  $X$ . Shopee has  $N$  warehouses to store the item  $X$ , and each warehouse has  $W_i$  number of item  $X$ . Each warehouse is located in a city and all cities have at most one warehouse. To serve the customers, each warehouse has its own courier delivery. The cost of the delivery from the warehouse  $i$  is  $C_i$  dollar per kilometer. Interestingly, in this parallel universe, the distance between neighboring cities is exactly one kilometer. The cities can be represented as a graph, where a node represents the city and an edge represents the road between cities, and all the cities are connected. Warehouse  $i$  is located at city  $P_i$ .

During the 13.13 campaign, people are very excited to buy this item  $X$  because of the free shipping discounts. As a result, there are  $M$  orders created. The  $i$ -th order contains  $K_i$  number of item  $X$ , and it needs to be delivered to city  $G_i$ . To serve all the customers, multiple warehouses can be used to serve a single order. So, one order can be served by multiple warehouses.

Because of the free shipping discounts, Shopee needs to pay the delivery fee of all the orders. Your task is to help Shopee to minimize the delivery fee in this 13.13 campaign.

## Input Format

The first line contains three integers  $N$ ,  $D$ , and  $E$  ( $1 \leq N \leq 20, 1 \leq D \leq N, N-1 \leq E \leq 200$ ) representing the number of cities, warehouses, and roads in this parallel universe. The next  $E$  lines contain 2 integers  $X_i$  and  $Y_i$  ( $1 \leq X_i, Y_i \leq N, X_i \neq Y_i$ ) which indicates that there is a road between city  $X_i$  and  $Y_i$ . The next  $D$  line contains 3 integers  $W_i$ ,  $C_i$ , and  $P_i$  ( $1 \leq W_i \leq 10^9, 1 \leq C_i \leq 10^6, 1 \leq P_i \leq N$ ) which represents the number of item  $X$  in warehouse  $i$  and the delivery fee of warehouse  $i$  per kilometer and the location of warehouse  $i$ . The next line contains an integer  $M$  ( $1 \leq M \leq 100000$ ) which represents the number of orders. Each of the next  $M$  lines contain two integers  $K_i$  and  $G_i$  ( $1 \leq K_i \leq 10^9, 1 \leq G_i \leq N, \text{sum of all } K_i \leq 10^9$ ) which represent the number of item  $X$  ordered in order- $i$  and the city of order  $i$ .

## Output Format

Output a single integer contains the total delivery cost of all orders. It is guaranteed that Shopee can serve all the orders.

## SAMPLE INPUT

```
8 3 11
1 2
1 3
2 3
3 4
4 5
5 6
5 7
```

?

```
5 8
4 6
3 7
7 8
12 5 1
11 10 6
1 6 7
3
3 4
4 4
7 5
```

## SAMPLE OUTPUT



```
136
```

**Time Limit:** 1.0 sec(s) for each input file.

**Memory Limit:** 64 MB

**Source Limit:** 1024 KB

**Marking Scheme:** Score is assigned when all the testcases pass.

**Allowed Languages:** Bash, C, C++, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, Java 14, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, R(RScript), Racket, Ruby, Rust, Scala, Swift-4.1, Swift, TypeScript, Visual Basic

## CODE EDITOR

Save

C++14 (g++ 5.4.0)



```
1  /*
2  // Sample code to perform I/O:
3
4  cin >> name;                // Reading input from STDIN
5  cout << "Hi, " << name << ".\n";    // Writing output to STDOUT
6
7  // Warning: Printing unwanted or ill-formatted data to output will cause the test cases to fail
8  */
9
10 // Write your code here
11
```



1:1 vscode


☒ Provide custom input

COMPILE &amp; TEST

SUBMIT



 **Tip:** You can submit any number of times you want. Your best submission is considered for computing total score.

 **Support:** For any queries or issues, write to techsg@shopee.com.

Your Rating:

Like 0

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