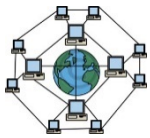
28 Network graph

20 points

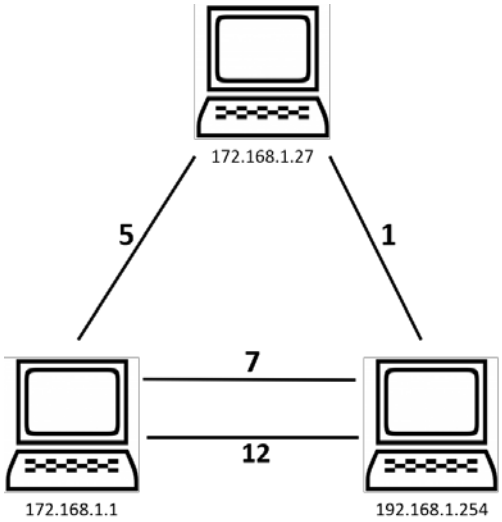


Introduction

As we are little hackers we need to send some packages through a computer network to avoid being detected by other spies.

Each computer in the network has its own identifier called IP address which is formed by 4 numbers separated by dots (e.g. 192.168.1.1). One computer can have one or more connection links to one or more computers in the network.

In the computer network you are going to use, it has some costs to send a package on a link between two computers. Notice that the cost is represented as the number over the link to find out its cost. And as you would imagine we have a short budget, so the lower price the better.



Could you program the way to find a path into the computer networks proposed to send that package?

HINT: All the IP address follow the format W.X.Y.Z where W, X, Y and Z are integer values in the range of [0..255].

Input

The input consists of several lines.
The first line will contain the IP address of the computer that sends the message.
The second line will contain the IP address of the computer that receives the message.
A variable number of lines will contain the different links that belong to the computer network. The syntax for each line will be:
ip_address_computer_x:cost:ip_address_computer_y

Output

A positive integer value representing the output will be the lower cost possible to connect the computer that sends the message and the computer that receives it.

Example 1

Input
```
172.168.1.1
172.168.1.254
172.168.1.1:7:172.168.1.254
172.168.1.1:12:172.168.1.254
172.168.1.1:5:172.168.1.27
172.168.1.254:4:172.168.1.27
```

Output
```
9
```

Example 2

Input
```
172.168.1.27
172.168.1.254
172.168.1.1:7:172.168.1.254
172.168.1.1:12:172.168.1.254
172.168.1.1:5:172.168.1.27
172.168.1.254:4:172.168.1.27
```

Output
```
4
```