**Problem Description**

Consider the following figure that shows a network. It has four nodes and a total of five connections among them. Every connection is labeled with a bandwidth that represents its data-carrying capacity per unit time. For example, the bandwidth between node 1 and node 4 is 25. It is the sum of the bandwidths 10 along the path 1-2-4, 10 along the path 1-3-4, and 5 along the path 1-2-3-4. No other combination of paths between nodes 1 and 4 provides a larger bandwidth.
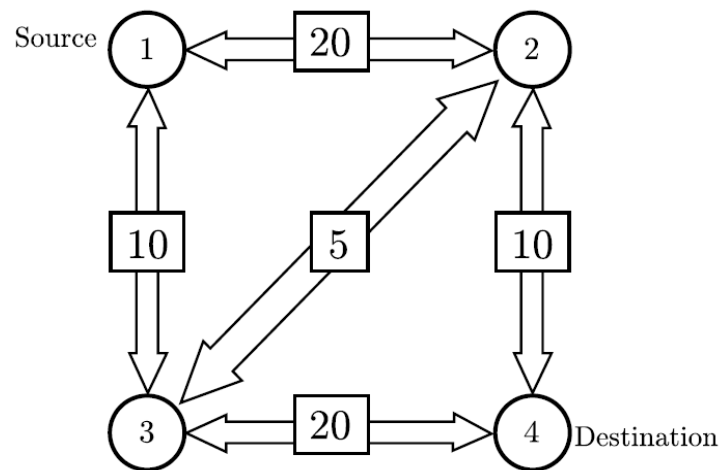
You have to write a program that computes the bandwidth between two given nodes in a network, given the individual bandwidths of all the connections in the network. In this problem, assume that the bandwidth of a connection is always the same in both directions.

Input

The input file contains descriptions of the network. Every description starts with a line containing a single integer n, which is the number of nodes in the network. The nodes are numbered from 1 to n. The next line contains three numbers s, t, and e. The numbers s and t are the source and destination nodes, and the number e is the total number of connections in the network. Following this are e lines describing the connections. Each of these lines contains three integers: the first two are the numbers of the connected nodes, and the third number is the bandwidth of the connection. There might be more than one connection between a pair of nodes, but a node cannot be connected to itself. All connections are bi-directional, i.e. data can be transmitted in both directions along a connection, but the sum of the amount of data transmitted in both directions must be less than the bandwidth.

Output

Then print the total bandwidth between the source node s and the destination node t, following the format of the sample output.

Sample Input

4
1 4 5
1 2 20
1 3 10
2 3 5
2 4 10
3 4 20

Sample Output

The bandwidth is 25