Problem C
Ticket to Ride

Input File: *testdata.in*
Time Limit: 1 second

Problem Description

Ticket to ride is a famous board game. Players build their own railways to get points. There are different colors of railways and cards. Players should spend some identical colors of cards building a railway, whose cost is based on the length of the railway. For example, a red railway of length 3 costs 3 red cards. Moreover, a railway can be built by only one player. There is no way to destroy a built railway.

Cilik is fascinated with the game, and he calls friends to play it with him from time to time. However, his friends are not always available to play with him. So he comes up with an excellent idea: he can set some missions and achieve them in limited rounds! In this way, he can play it whenever he wants.

To make the mission more challenging, Cilik prepares some cards, each representing a distinct city. In the beginning, he draws two cards, the first one indicating the start city, and the second one indicating the destination city. There is an imaginary opponent who wants to build a railway path from the start city to the destination city. In each step, the opponent will build a railway. To win the game, Cilik needs to do his best to prevent the opponent from achieving this goal.

Since there are so many ways to build such a path, Cilik thinks that the best strategy is to block all the possible paths by HIS railway(s).

For instance, a traffic net described in first case of Sample Input could be blocked by building the following 3 railways:

1. A railway between city 0 and city 2 that costs 2 cards to build.

2. A railway between city 1 and city 3 that costs 2 cards to build.

3. A railway between city 1 and city 2 that costs 7 cards to build.

In this case, Cilik needs 11 cards to win the game.

He wants to use as less cards as possible, but since the traffic net is too complex for him, he asks for your help to tell him the least cards he needs to achieve the goal.

To simplify the problem, assume that there is only one color in the game.

Technical Specifications

1. The number of test cases would be smaller than or equal to 20.
2. Number of cities V would satisfy $2 \leq V \leq 200$.
3. Number of railways E would satisfy $E \leq 1000$.
4. The cost of each railway would be a positive integer smaller than or equal to 10^6.

Input Format

There are several test cases in the input. The first line of each case contains four integers V, E, S, and T. V and E indicate the number of cities and the number of railways respectively. The cities are numbered from 0 to $V - 1$. S is the start city and T is the destination city.

Each of the following E lines contains three integers, a, b, c, which means there is a railway connecting city a and city b that costs c cards to build, and a would not be equal to b. Each railway is bi-directional, and there is at most one railway connecting a pair of cities. The input is terminated by EOF.

Output Format

For each test case, print a single line that contains the minimum number of cards Cilik needs.

Sample Input

```
4 5 0 3
0 1 10
0 2 2
1 2 7
1 3 2
2 3 10
8 14 1 7
0 1 1
1 2 16
1 3 13
2 3 4
2 4 12
3 0 1
3 2 10
3 5 1
3 6 14
4 3 9
4 7 20
6 4 7
6 7 4
7 2 1
```

Sample Output

```
11
25
```