**Uncle Grandpa and Pizza Steve**

**Note:** This problem will be graded for 1%.



So it’s almost Christmas already! Our Grandpa, with his newly bought hypercar, is planning to celebrate with his close friend: Pizza Steve. For your information, the country that Uncle Grandpa and Pizza Steve are living in consists of  **cities connected by uni-directional roads (aka directed)**. Each road has a specific length (of course right?). Uncle Grandpa’s house is at city and Pizza Steve’s house is at city . Let’s call means the length of the shortest path from to . Now the two want to choose a common city to meet, such that is minimum. Please help them!

## Input

The first line contains four integer – the number of cities, the number of uni-directional roads, the city that our Grandpa is living in and the city that Pizza Steve is living in.

The next lines, each will consists three integers – represent a uni-directional road from to with a length of .

## Output

Assume is the city with the minimum value of . Print out . In case no city that can be travelled to by both and , print out

## Examples

|  |  |
| --- | --- |
| Input (pizzasteve1.in) | Output (pizzasteve1.out) |
| 6 6 1 6  1 2 3  2 3 2  1 4 2  6 5 3  5 4 1  6 3 5 | 4 |

|  |  |
| --- | --- |
| Input (pizzasteve2.in) | Output (pizzasteve2.out) |
| 3 1 1 3  2 1 1 | Sad |

## Explanation:

For the 1st example, there are 2 cities that both our Grandpa (staying at ) and Pizza Steve (staying at ) can travel to, and they are and . The value of while

=> 4 should be printed out!

For the 2nd example, it’s obvious that we should print

## Note:

1. A skeleton file has been given to help you. You should not create a new file or rename the file provided. You should develop your program using this skeleton file.
2. You are free to define your own helper methods and classes (or remove existing ones) if it is suitable but you must put all the new classes, if any, in the same skeleton file provided

## Skeleton File

You can find the skeleton file Pizzasteve.java in the lab package.