

## Problems

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Problem	MARICA	FATBOY
Executable file	MARICA.EXE	FATBOY.EXE
Source file	MARICA.PAS MARICA.C MARICA.CPP	FATBOY.PAS FATBOY.C FATBOY.CPP
Input file	MARICA.IN	FATBOY.IN
Output file	MARICA.OUT	FATBOY.OUT
Time limit per test	10 seconds	10 seconds
Number of tests	10	10
Points per test	5	5
Total points	50	50
	100	

# MARICA

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Marica is very angry with Mirko because he found a new girlfriend and she seeks revenge.

Since she doesn't live in the same city, she started preparing for the long journey.

Every two cities in the country are connected by **at most one** road, and we know for every road how many minutes it takes to come from one city to another.

Mirko overheard in the car that one of the roads is under repairs, and that it is blocked, but didn't hear exactly which road. It is possible to come from Marica's city to Mirko's no matter which road is closed.

Marica will travel only by **non-blocked** roads, and she will travel by **shortest** route. Mirko wants to know how long will it take for her to get to his city **in the worst case**, so that he could make sure that his girlfriend is out of town for long enough.

Write a program that helps Mirko in finding out what is **the longest time** in minutes it could take for Marica to come by shortest route by **non-blocked** roads to his city.

## Input data

There are two numbers in the first row,  $N$  and  $M$ , separated by a single space, the number of towns, and the number of roads between the towns.  $1 \leq N \leq 1000$ ,  $1 \leq M \leq N*(N-1)/2$ . The cities are marked with numbers from 1 to  $N$ , Mirko is located in city 1, and Marica in city  $N$ .

In the next  $M$  lines are three numbers  $A$ ,  $B$  and  $V$ , separated by commas.  $1 \leq A, B \leq N$ ,  $1 \leq V \leq 1000$ . Those numbers mean that there is a two-way road between cities  $A$  and  $B$ , and that it is crossable in  $V$  minutes.

## Output data

In the first line of the output file write the maximum time in minutes, it could take Marica to come to Mirko.

## Examples

MARICA.IN

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

MARICA.OUT

```
11
```

MARICA.IN

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

MARICA.OUT

```
13
```

MARICA.IN

```
5 7
1 2 8
1 4 10
2 3 9
2 4 10
2 5 1
3 4 7
3 5 10
```

MARICA.OUT

```
27
```

# FATBOY

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Mirko is, as we know, happily married. During the last month he gained 70 pounds. Because of all the fat stored in his fingers, he has a hard time writing e-mails to his old friend Slavko whom he has not forgotten.

Every night Mirko describes in detail all the things he has eaten on that day, but **sometimes** he presses **more than one key** when he only wanted to press one. Every of those accidentally pressed keys can be **any** key on the keyboard, **including** the desired key, the keys may repeat and, since Mirko has already gotten used to his disability, the number of accidentally pressed keys along with the desired one will **not be more than three**.

After he received multiple unreadable e-mails, Slavko asked Mirko to always send e-mail **three times** so that he can understand it more easily.

Write a program that will help Slavko to determine the **longest possible** text that Mirko could of written, based on the three e-mails he received.

## Input data

The input file contains 3 lines of text.

Each of those lines contains one version of Mirko's text. The only characters contained will be non-capital letters of the English alphabet and there won't be more than 100 of them.

## Output data

The first and only line of the output data should contain the longest possible text that Slavko could determine from the received e-mails.

**Note:** There will always be a solution, but not necessarily a unique one.

## Examples

FATBOY.IN

jueha  
judbhak  
jukhxa

FATBOY.OUT

juha

FATBOY.IN

asaermxvqav  
scanrmab  
tstamrmhaqu

FATBOY.OUT

sarma

FATBOY.IN

cecqbhvaiaedpibaluk  
cabegviapcihlaaugck  
adceevfdadaepcialaukd

FATBOY.OUT

cevapiluk