Problem G. Getting Coffee

Source file name:	coffee.c, coffee.cpp, coffee.java
Input:	`Standard`
Output:	`Standard`
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Toby does not trust anyone. He always enjoys to walk to the nearest coffee store to get his morning coffee, seems like the only one he trusts is the barista in the coffee store since he always trust he is serving his morning latte and not a capuccino. Well, since Toby does not trust in people his morning walk to the coffee store is quite interesting:

- Toby has a list of N places that he likes in the city, the place 1 is his home and place N is the coffee store.
- From these N places he may walk only between places that are connected by one of the M trails he likes.
- To ensure he is not followed or observed by anyone Toby will take a path from home to the coffee store and a different one from the coffee store to home. He may pass more than once on some places on his walk but will never take the same trail.
- Since Toby always leaves his morning yoga video buffering while he goes for his coffee he wants to do his walk as fastest as possible, this is, taking the minimum amount of time since he leaves home until his return.

As Toby is knowing more and more places it is becoming harder for him to plan his morning walks. So he asked you for help to give him a piece of advice on what is the path that he must follow.

Given the preferences Toby have for his walk you have to compute what is the path he can take from home to coffee and coffee to home that takes the less amount of time.

Input

Input contains several test cases. The first line contains two integers separated by a space N and M. Next M lines contains three values separated by space, a, b and t representing the i-th trail connects places a and b and it takes t time for Toby to walk that trail.

- $1 \leq N \leq 100$
- $1 \leq M \leq \frac{(N)(N-1)}{2}$
- $1 \leq t_i \leq 1000$

Note: You may assume there is always a way for Toby to complete his walk.

Output

Your program should output one line per test case containing two integer values. The first one is the less amount of trails Toby have to take on his walk, the second one is the less amount of time that it can take for Toby to go grab coffee and return home.

Example

Input	Output
3 3 1 3 5 2 1 10 3 2 15	30