Till the Cows Come Home

Description

Dr. K is out in the field and wants to get back to the barn to get as much sleep as possible before Farmer John wakes him for the morning milking. Dr. K needs his beauty sleep, so he wants to get back as quickly as possible.

Farmer John's field has **N (2 <= N <= 1000)** landmarks, uniquely numbered **1,2..N**. Landmark 1 is the barn; the apple tree grove in which Dr. K stands all day is landmark **N**. Cows travel in the field following **T (1 <= T <=200000) bidirectional** cow-trails of various lengths between the landmarks. Dr. K is not confident of his navigation ability, so he always stays on a trail from its start to its end once he starts it.

Given the trails between the landmarks, can you find out the minimum distance Dr. K must walk to get back to the barn? It is guaranteed that some such route exists.

Input

Input contains multiple test cases and is terminated by end of file. The first line of each test case contains two integers: **N** and **T**. Each of the following T lines describes a trail as three space-separated integers. The first two integers are the landmarks between which the trail travels. The third integer is the length of the trail, range 1..100. There is no duplicated trail and the two landmarks of one trail are always different.

Output

For each test case, print a single integer in separate line, the minimum distance that Dr. K must travel to get from landmark N to landmark 1.

Sample Input	Sample Output
2 1 2 1 10 5 5 1 2 20 2 3 30 3 4 20 4 5 20 1 5 100	10 90