Transport Plan

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	512 megabytes

There are n cities and m transport plans. For each integer i in $[1, n-1]$, there is a bidirectional road between the i-th city and the $(i+1)$-th city with 1km length. The i-th transport plan is to transport v_i ton goods from the a_i-th city to the b_i-th city.

It costs 1 yuan to transport 1 ton of goods for 1km. You can choose two cities x, y and build a bidirectional portal between them. Goods can be transported between these two cities at no cost.

What is the minimum cost to accomplish all the m transport plans?

Input

The first line contains two integers n, m ($2 \leq n \leq 3000, 1 \leq m \leq 2 \times 10^5$).

For the next m lines, the i-th line contains three numbers a_i, b_i, v_i ($1 \leq a_i, b_i \leq n, 1 \leq v_i \leq 10^6$).

Output

One integer, denoting the minimum cost.

Example

standard input	standard output
4 3 1 3 2 4 2 3 1 4 4	5