

## Problem E

### Taxi Fare

Input file: *testdata.in*

Time limit: 1 second

#### Problem Description

We have a city network in which each road is a one-way and there is no loop in the network. Each road has a positive integer length. Now we want to take a taxi to go from a city to another destination city. However, the taxi computes its fare according to a very strange rule, e.g. it will collect  $L \bmod k$  fare if the total traveling distance is  $L$ , and  $k$  is a positive integer constant. Now please compute a route that will incur the cheapest fare.

#### Technical Specification

1. For any given two cities, there is at most one one-way.
2. The number of cities,  $N$ ,  $1 \leq N \leq 300$ .
3. The number of roads,  $M$ ,  $0 \leq M \leq \frac{N(N-1)}{2}$ .
4.  $1 \leq \text{length of a road} \leq 1000$
5.  $1 \leq k \leq 1000$ .

#### Input Format

There are at most 10 test cases in the input file. Each of the test cases begins with three integers,  $N$ ,  $M$ , and  $k$ . There are  $M$  lines in the following. In each of the  $M$  lines there are three integers  $i$ ,  $j$ , and  $w$ , denoting that there is a directed road of length  $w$  beginning from the  $i^{\text{th}}$  city and ending at the  $j^{\text{th}}$  city.

## Output Format

For each test case, output the minimum taxi fare from the 1<sup>st</sup> city to the  $N^{\text{th}}$  city in one line. If there is no route from the 1<sup>st</sup> city to the  $N^{\text{th}}$ , output 'NO\_WAY!' for that case.

## Sample Input

```
1 0 19
5 5 30
1 2 4
2 4 2
2 3 8
3 5 7
4 5 9
11 6 674
2 1 194
9 4 157
10 8 315
7 10 146
7 11 64
2 11 478
```

## Sample Output

```
0
15
NO_WAY!
```