Problem 2. Shortest distance (1 points, Timelimit: 2sec)

Problem Statement

For given a **undirected weighted graph** G = (V, E), find a shortest distance from a start node 0 to a destination node (|V| - 1).

Input Statement

First line contains t which is the number of test cases.

At the first line of each test case contains the size of graph |V| (< 100,000) and |E| (< 200,000).

Each of next |E| lines contains three integers u, v and d that represents an edge (u, v) with distance d. All the edges are disjoint to each other.

Output Statement

For each test case, print the length of shortest distance from start to destination. If there is no available path, print -1 instead of the length.

Input Example

2

 $2\ 1$

 $\begin{array}{c} 0\ 1\ 3 \\ 5\ 6 \end{array}$

015

1 2 2

1 3 1

3 2 7

 $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{2}$

4 1 15

Output Example

3 9 // 0 \rightarrow 1 \rightarrow 2 \rightarrow 4, 5 + 2 + 2 = 9