
Dijkstra?

P26855_en

Dotzè Concurs de Programació de la UPC - Final (2014-10-01)

Write a program that, given a directed multigraph with arcs with positive costs, computes the cost of the second cheapest walk from vertex 0 to every other vertex. Remember that a multigraph may have arcs from x to x , and more than one arc from x to y . Also remember that a walk can repeat vertices and arcs.

Input

Input consists of several cases. Every case begins with the number of vertices n and the number of arcs m , followed by m triples $x y c$ to indicate an arc from x to y with cost c . Assume $2 \leq n \leq 10^4$, $0 \leq m \leq 5n$, that vertices are numbered from 0 to $n - 1$, and that every cost c is an integer number between 1 and 10^4 .

Output

For every case, print the second minimum cost of walking from 0 to the rest of vertices, ordered from 1 to $n - 1$. If there is no second best walk to some vertex, just print "no". Print a line with ten dashes at the end of every case.

Sample input

```
4 3
0 1 100
0 3 200
1 3 50

5 8
0 4 42
0 4 12
1 0 10000
0 1 7
0 3 100
3 3 5000
3 2 23
0 2 6000
```

Sample output

```
no
no
200
-----
10014
5123
5100
42
-----
```

Problem information

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