

**UNIVERSIDAD NACIONAL DE SAN AGUSTÍN DE AREQUIPA**

**FACULTAD DE PRODUCCION Y SERVICIOS**

**ESCUELA PROFESIONAL DE INGENIERÍA DE SISTEMAS**



**Curso: Laboratorio Análisis y Diseño de Algoritmos**

## **Evidencias Ejercicios 10**

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**Estudiante:**

Neira Carrasco, Darwin Jesus

**Grupo - “B”**

Arequipa - Perú

## Shortest Routes I

← → ↻ cses.fi/problemset/task/1671/

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CSSES

DarwinJNeira

CSSES Problem Set

Shortest Routes I

TASK | SUBMIT | RESULTS | STATISTICS | HACKING

Time limit: 1.00 s Memory limit: 512 MB

There are  $n$  cities and  $m$  flight connections between them. Your task is to determine the length of the shortest route from Syrjäla to every city.

Input

The first input line has two integers  $n$  and  $m$ : the number of cities and flight connections. The cities are numbered  $1, 2, \dots, n$ , and city 1 is Syrjäla.

After that, there are  $m$  lines describing the flight connections. Each line has three integers  $a$ ,  $b$  and  $c$ : a flight begins at city  $a$ , ends at city  $b$ , and its length is  $c$ . Each flight is a one-way flight.

You can assume that it is possible to travel from Syrjäla to all other cities.

Output

Print  $n$  integers: the shortest route lengths from Syrjäla to cities  $1, 2, \dots, n$ .

Constraints

- $1 \leq n \leq 10^5$
- $1 \leq m \leq 2 \cdot 10^5$
- $1 \leq a, b \leq n$
- $1 \leq c \leq 10^9$

Example

Input:  
3 4  
1 2 6

Graph Algorithms

...

Building Teams

Round Trip

Monsters

Shortest Routes I

Shortest Routes II

High Score

Flight Discount

Cycle Finding

...

Your submissions

2021-12-19 03:02:20

2021-12-19 02:40:35

2021-12-19 02:31:39

2021-12-19 02:28:07

2021-12-19 02:25:18

2021-12-18 05:35:39

2021-12-18 05:29:58

2021-12-18 05:27:42

2021-12-18 05:17:16

## Shortest Routes II

← → ↻ cses.fi/problemset/result/3255619/

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CSSES

DarwinJNeira

CSSES Problem Set

Shortest Routes II

TASK | SUBMIT | RESULTS | STATISTICS | HACKING

Submission details

Task: Shortest Routes II

Sender: DarwinJNeira

Submission time: 2021-12-19 00:24:31

Language: C++11

Status: READY

Result: ACCEPTED

Test results

test	verdict	time	
#1	ACCEPTED	0.01 s	>>
#2	ACCEPTED	0.01 s	>>
#3	ACCEPTED	0.01 s	>>
#4	ACCEPTED	0.01 s	>>
#5	ACCEPTED	0.01 s	>>
#6	ACCEPTED	0.30 s	>>
#7	ACCEPTED	0.30 s	>>
#8	ACCEPTED	0.30 s	>>
#9	ACCEPTED	0.30 s	>>
#10	ACCEPTED	0.30 s	>>
#11	ACCEPTED	0.32 s	>>
#12	ACCEPTED	0.34 s	>>
#13	ACCEPTED	0.01 s	>>
#14	ACCEPTED	0.01 s	>>

Graph Algorithms

...

Round Trip

Monsters

Shortest Routes I

Shortest Routes II

High Score

Flight Discount

Cycle Finding

Flight Routes

...

Your submissions

2021-12-19 00:24:31

2021-12-19 00:07:08

2021-12-18 23:48:46

2021-12-18 23:33:30

2021-12-18 23:28:53

2021-12-18 23:28:04

2021-12-18 22:48:00

2021-12-18 22:41:39

2021-12-18 22:38:51

## Road Reparation

← → ↻ cses.fi/problemset/result/3256421/

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**CSES** DarwinJNeira — ↺ ↻

## CSES Problem Set

# Road Reparation

TASK | SUBMIT | RESULTS | STATISTICS | HACKING

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### Submission details

Task: [Road Reparation](#)

Sender: DarwinJNeira

Submission time: 2021-12-19 05:51:39

Language: C++11

Status: READY

Result: **ACCEPTED**

### Test results

test	verdict	time	
#1	ACCEPTED	0.01 s	>>
#2	ACCEPTED	0.01 s	>>
#3	ACCEPTED	0.01 s	>>
#4	ACCEPTED	0.01 s	>>
#5	ACCEPTED	0.01 s	>>

### Graph Algorithms

- Planets Queries I
- Planets Queries II
- Planets Cycles
- Road Reparation ✓
- Road Construction
- Flight Routes Check
- Planets and Kingdoms
- Giant Pizza

### Your submissions

2021-12-19 05:51:39 ✓