

Register for Certification exam

Course outline

How to access the portal

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Week 1: Analysis of algorithms

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Week 2 Quiz

Week 2 Programming Assignment

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Week 3 Programming Assignment

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Week 4 Quiz

Week 4 Programming Assignment

Week 4 Programming Assignment

Week 5: Data Structures: Union-Find and Heaps

Week 5: Divide and Conquer

Week 5 Quiz

Download

TEXT TRANSLATION

Week 4 Programming Assignment

Due on 2019-03-05, 23:59 IST

- Select your language (C/C++/Java/Python2/Python3)
- Paste your code into the submission window.
- There are some public test cases and some (hidden) private test cases.
- "Compile and run" will evaluate your submission against the public test cases.
- "Submit" will evaluate your submission against the hidden private test cases and report a score on 100. There are 20 private testcases in all, each with equal weightage. You will only get a score on 100. You will not get feedback on which private testcases passed or failed.
- Ignore warnings about "Presentation errors".

Padayatra

(IOI Training Camp, Bangalore, 2004)

The exit polls indicate that the sitting MLA is likely to lose the upcoming election. The party high command instructs him to undertake a padayatra through his constituency to boost his popularity. To maximize coverage of the constituency, the party decides that he should choose a circular route that returns to the starting point without using any road twice. The route need not visit all the towns and villages in the constituency.

Being averse to physical exercise, the MLA would like to minimize the distance that he has to walk. He has a helicopter at his disposal, so he can begin the padayatra at any town or village.

The task is to help him find the shortest circular route. You are guaranteed that there is always at least one circular route.

Solution Hint

Input format

The first line of input is an integer N , $1 \leq N \leq 1000$, the number of roads in the constituency. The constituency has no more than 300 towns and villages connected by roads.

The next N lines specify the roads. Each line consists of three space separated integers S , T and D where S is the starting point of the road, T is the ending point and D is the length of the road. Each road is a two-way road and is listed exactly once, in one of the two directions.

Output format

A single line with the integer distance around the shortest possible circular route.

Test data

There are at most 300 towns and villages and at most 1000 roads.

Example

Sample Input

```
4
3 1 5
1 2 4
3 2 3
1 5 44
```

Sample output 1

```
12
```

Select the Language for this assignment. -- ▼

You may submit any number of times before the due date. The final submission will be considered for grading.

Assignment will be evaluated only after submitting using Submit button below. If you only save as or compile and run the Program, your assignment will not be graded and you will not see your score after the deadline.

Save as Draft

Compile & Run

Submit

Reset

Sample Test Cases

	Input	Output
Test Case 1	4	12
	3 1 5	
	1 2 4	
	3 2 3	
	1 5 44	
Test Case 2	7	77
	3 1 11	
	6 1 12	
	6 4 52	
	6 2 17	
	5 2 14	
	4 5 13	

Test Case 3

7 5 27
3 4 10
10
6 1 13
6 3 17
5 3 18
8 5 11
8 7 19
6 8 85
8 4 92
7 2 15
4 2 13
4 1 10

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End

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