

TIME: 36:12/23:59:00

QUES: 1/3

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Expert (100 Marks)

Ten years ago, Bengaluru Metro started its operations by opening its first line in Central Bengaluru. The government received enormous response from various sections of the society. People started using Metro services so often that only after 6 months of its launch, all the train coaches were seen filled tightly by the travellers. After 10 year now, Metro expanded to cover almost all the major areas of the city. Today, around six different lines are running in different areas, which are connecting not only Bengaluru, but also other regions close to Bengaluru. Lakhs of people are using Metro service every day and today it has become one of top 10 well known Metro networks from across the globe. To take the momentum forward, government continues to expand the metro network in various localities.

Metro Planning team found various localities where metro stations can be build and they identified various **L** localities around Bengaluru. It is possible to connect any two localities, if there exists a commercial agreement (which will be represented by the line in the images below) between them.

Commerce agreement between two cities will represent the effective cost needed to join the two Localities.

The proposed metro route has to met the following requirements:

1. It could start in any of the localities, but must visit through each of the locality around the city, and finally it should end in another locality different from the starting locality.
2. Each locality can be visited exactly once on a route.
3. Every pair of consecutively visited localities on the route has a commercial agreement.
4. Every pair of consecutively visited localities on the route has to be connected by a line segment.
5. To avoid crashes on route via road, the line segments can not cross itself. **For example, It would not be legal, for example, to construct a route that went from 2 to 6 and from 5 to 1(see sample test case 1 image), since the route would cross itself.**

You need to write a program that will return the minimum cost required to build the metro route connecting all the localities.

Sample Problem with Solutions (<https://www.techgig.com/platform-faq>)

[ge/Question/Coding-Test/AEJOS3RkcXQyY0w5V1BHSGhWakFYTVphSFRoNDc0THJFYTNUYzg2SmxnNnJQQ3R5ekUybmRwRWUycStoMXBmNA==/3](https://www.techgig.com/challenge/question/coding-test/AEJOS3RkcXQyY0w5V1BHSGhWakFYTVphSFRoNDc0THJFYTNUYzg2SmxnNnJQQ3R5ekUybmRwRWUycStoMXBmNA==/3))