The Traveling Salesman Problem
Cheapest-Link Algorithm

Lecture 31
Sections 6.5

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Hampden-Sydney College

Wed, Nov 14, 2018

1 The Cheapest-Link Algorithm

2 Practice

3 Assignment

Outline

1. The Cheapest-Link Algorithm
2. Practice
3. Assignment

The Cheapest-Link Algorithm

Definition (Cheapest-Link Algorithm)

The Cheapest-Link Algorithm begins with the edge of least weight and makes it part of the circuit.

- Then it selects the edge of second-smallest weight, and so on.

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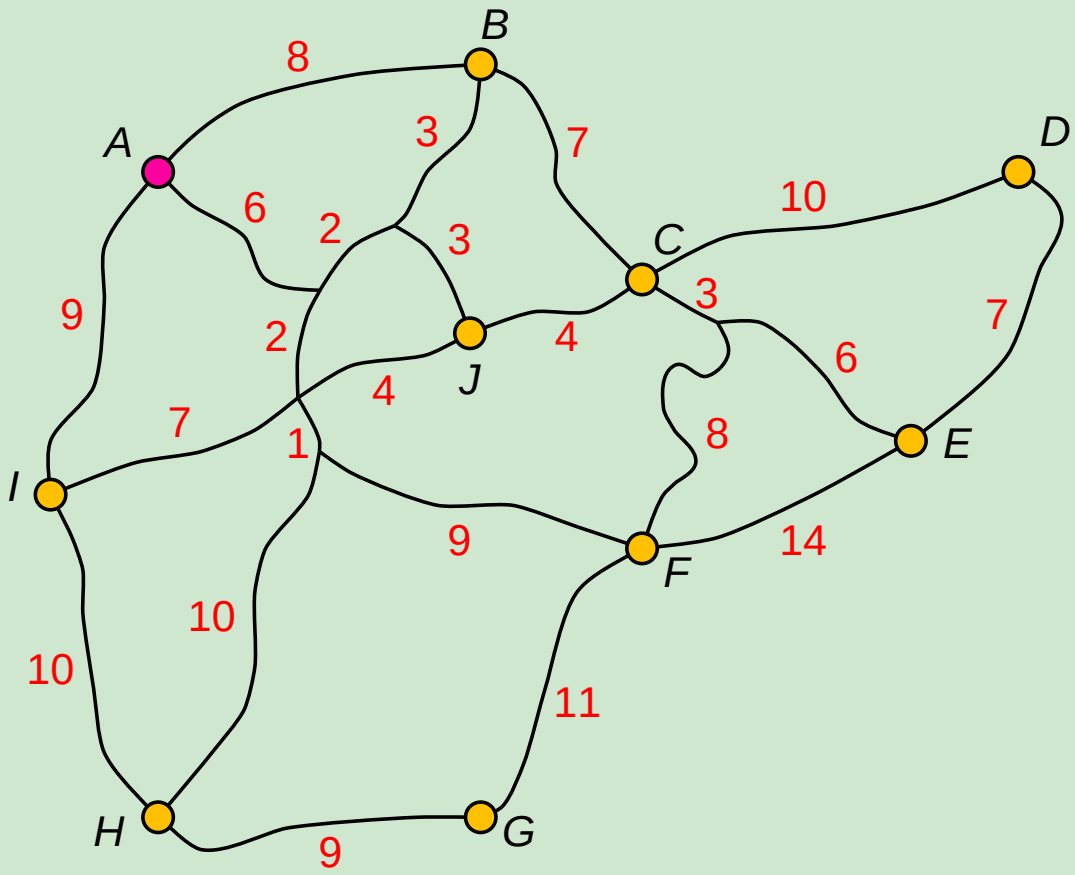
- Then it selects the edge of second-smallest weight, and so on.
- Once a vertex has two selected edges, no more edges of that vertex are considered.
- And we must avoid creating a circuit prematurely.
- Eventually the chosen edges will form a circuit.

Example

Example (Cheapest-Link Algorithm)



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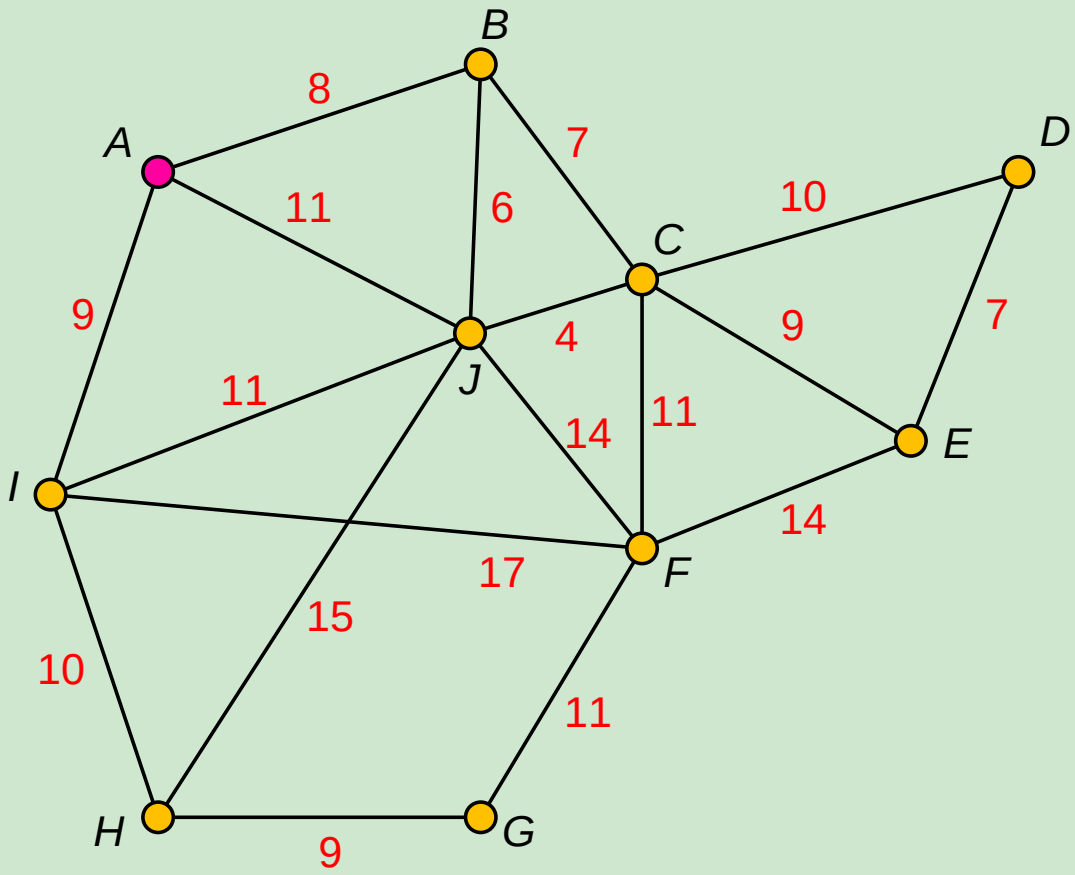

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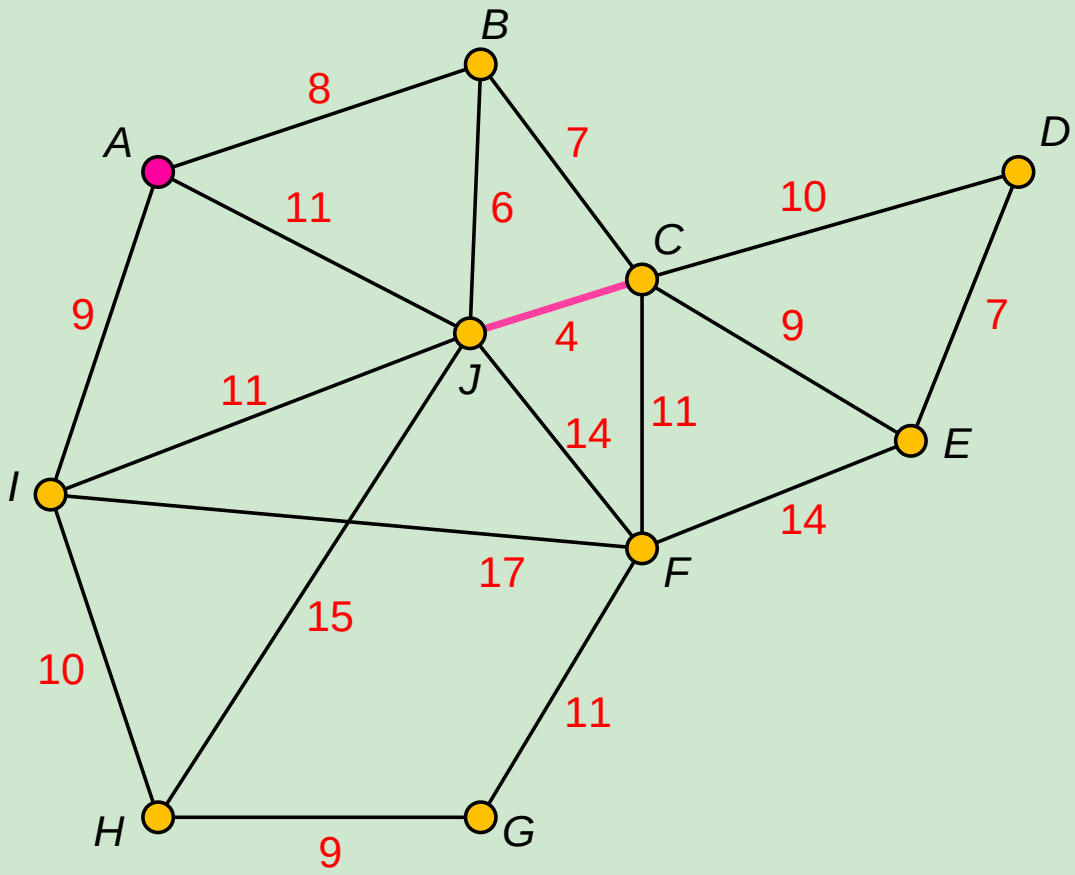

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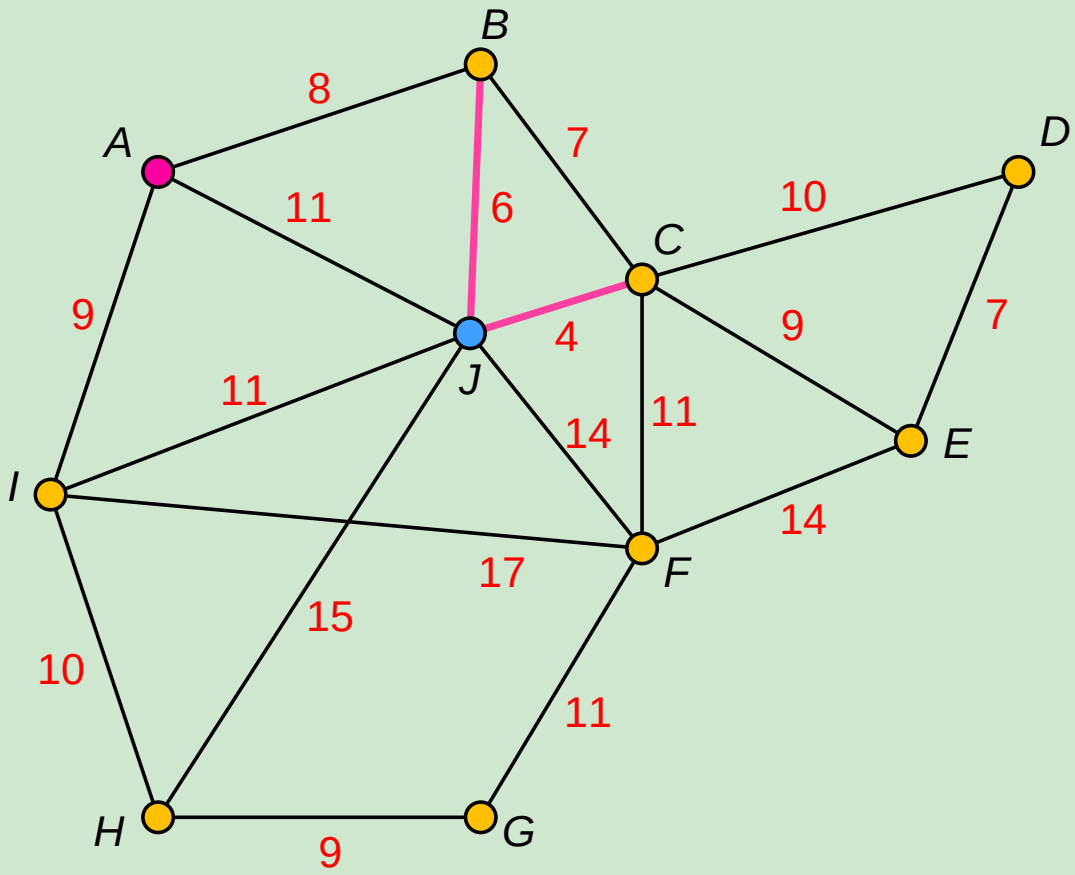

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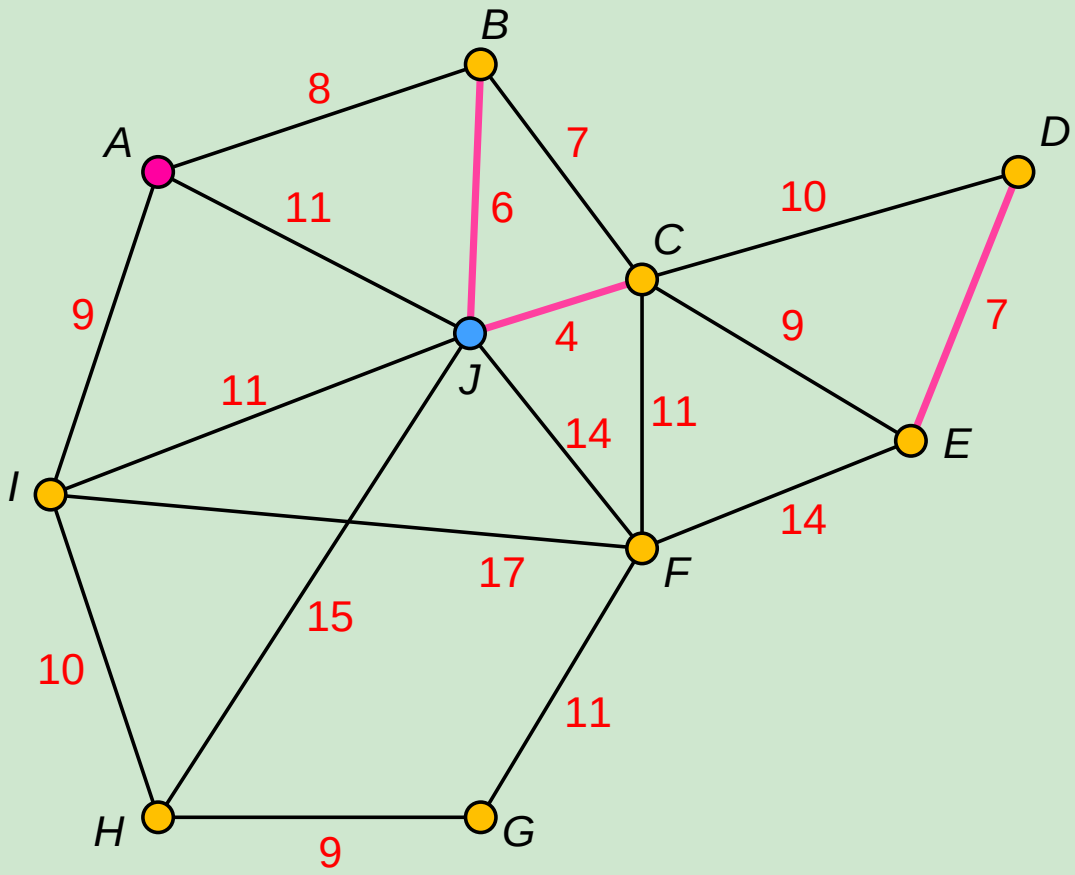

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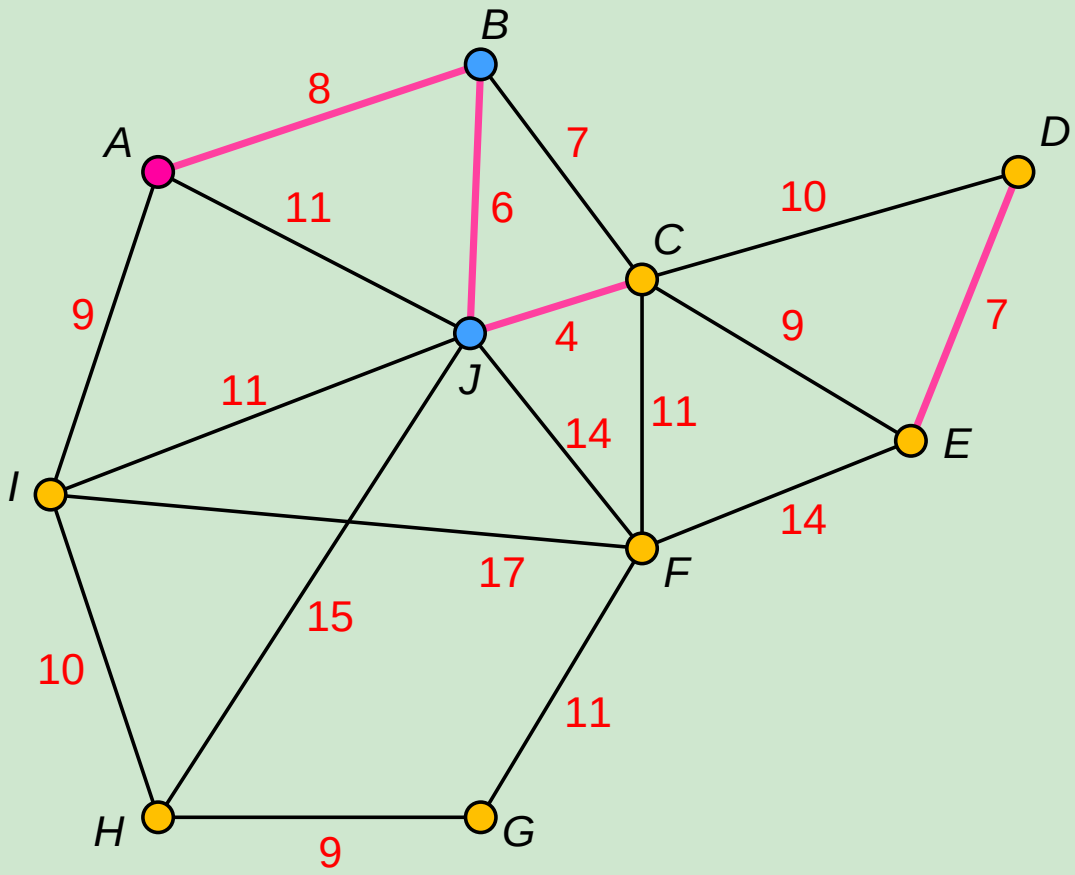

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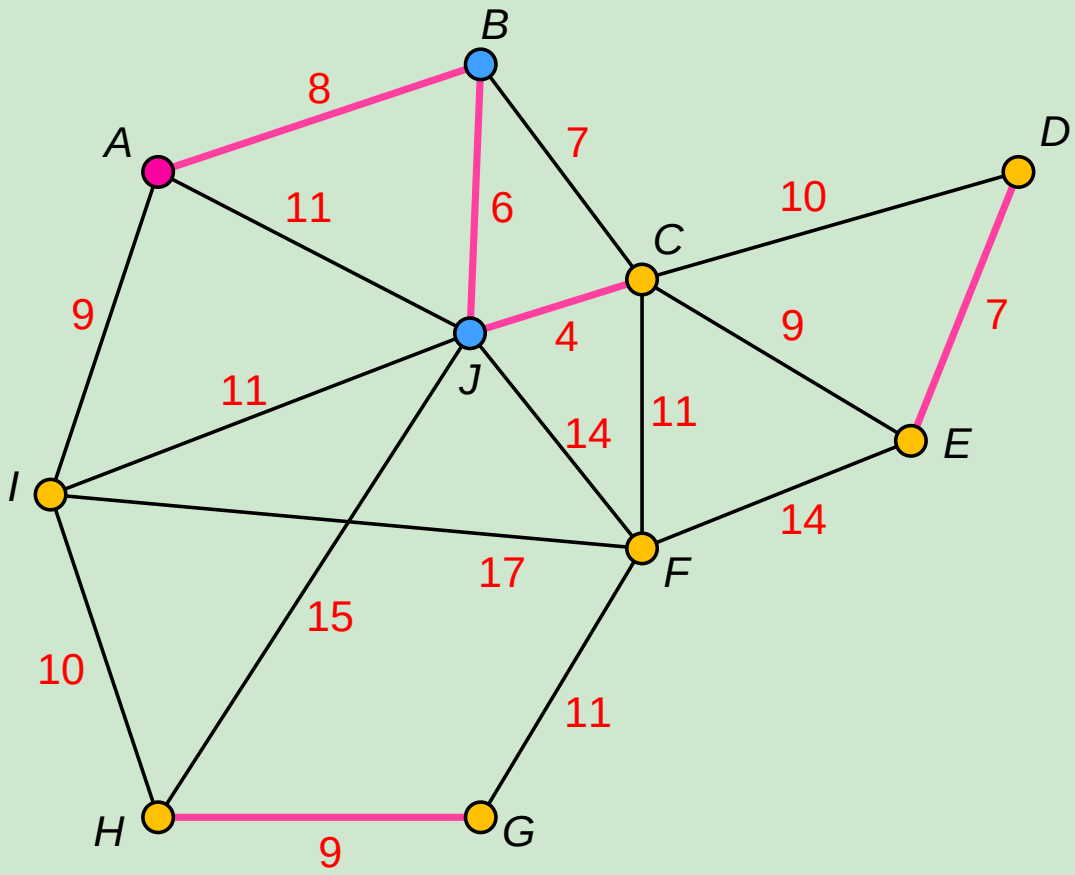

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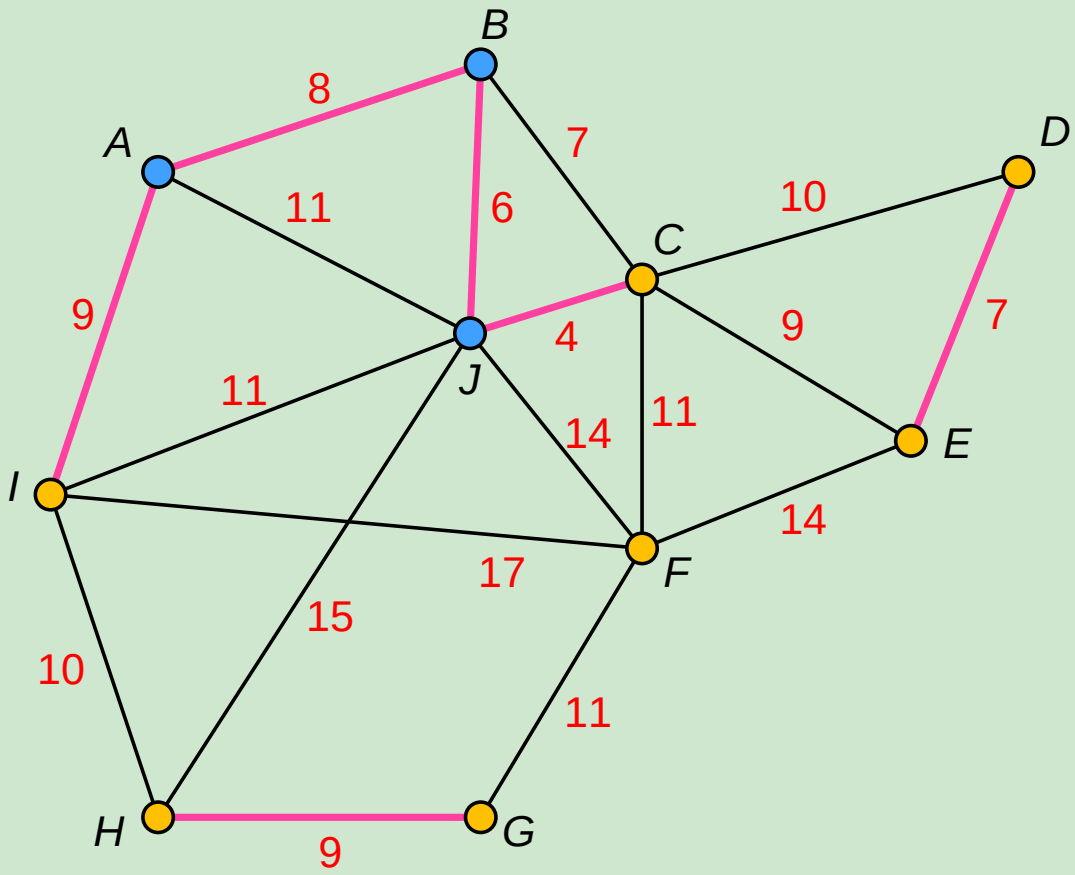

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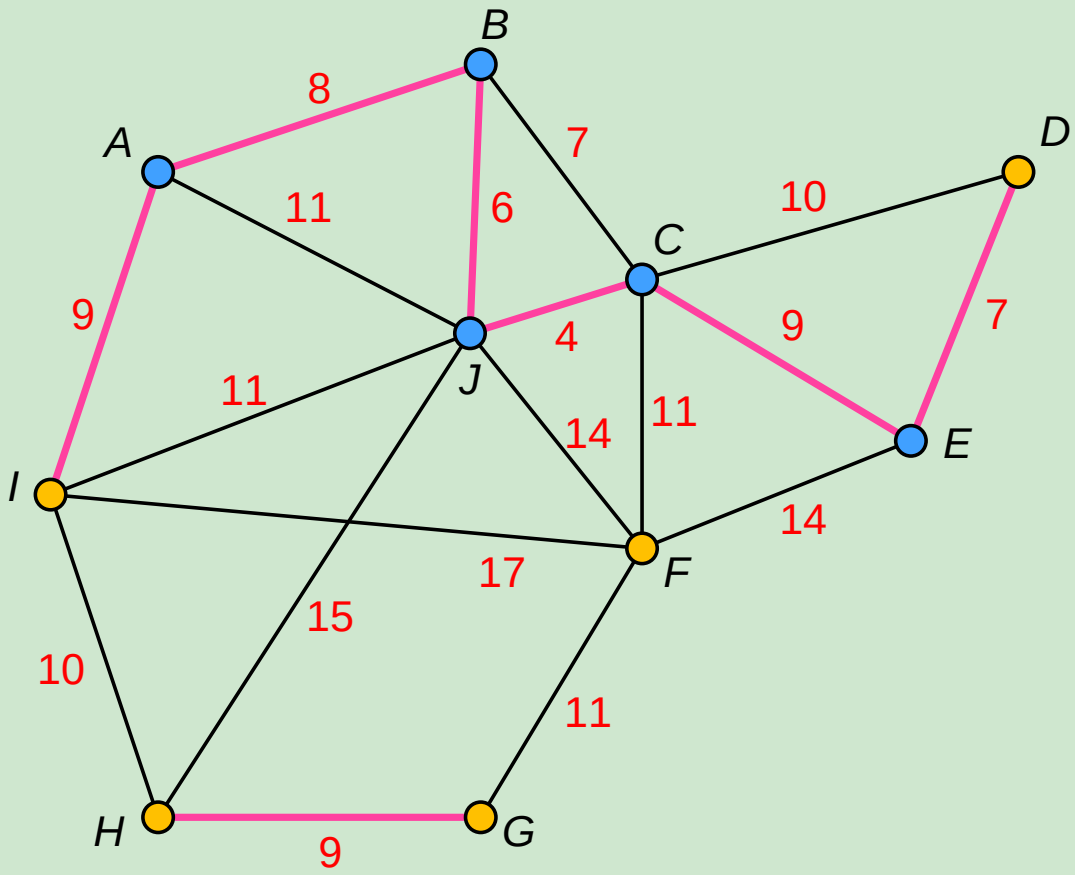

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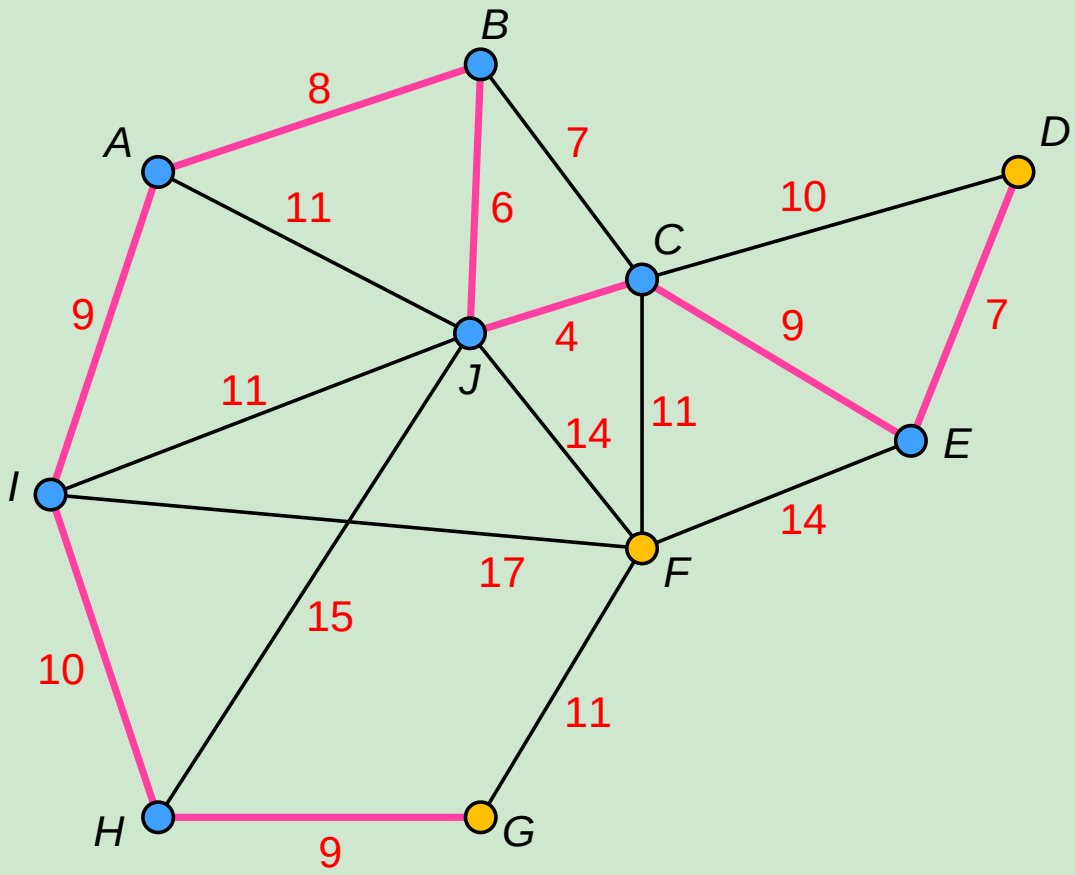

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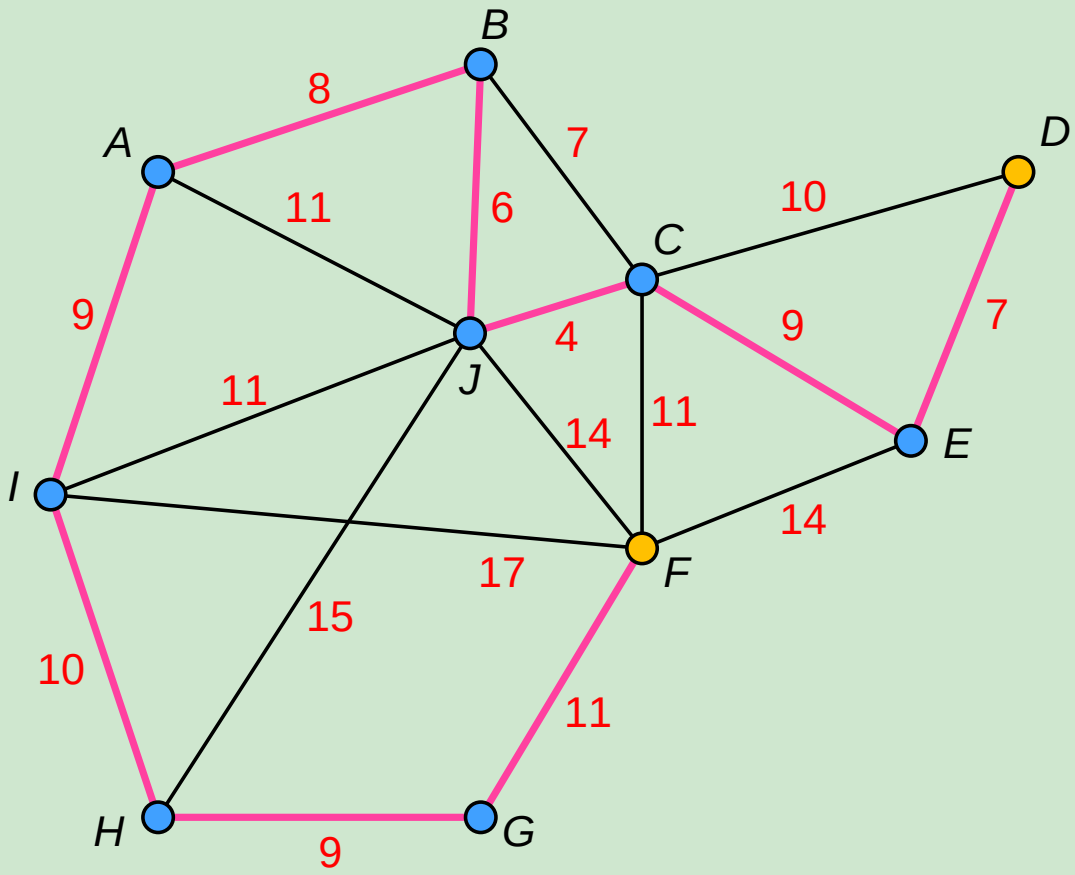

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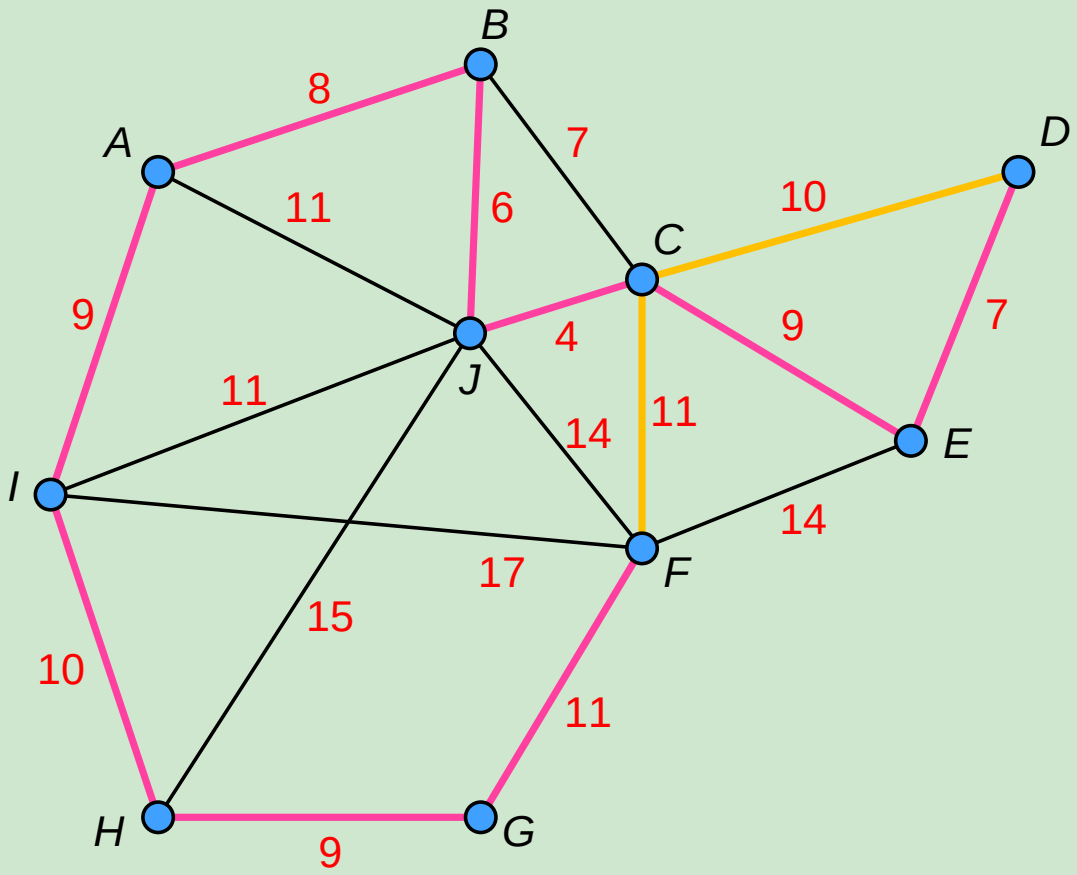

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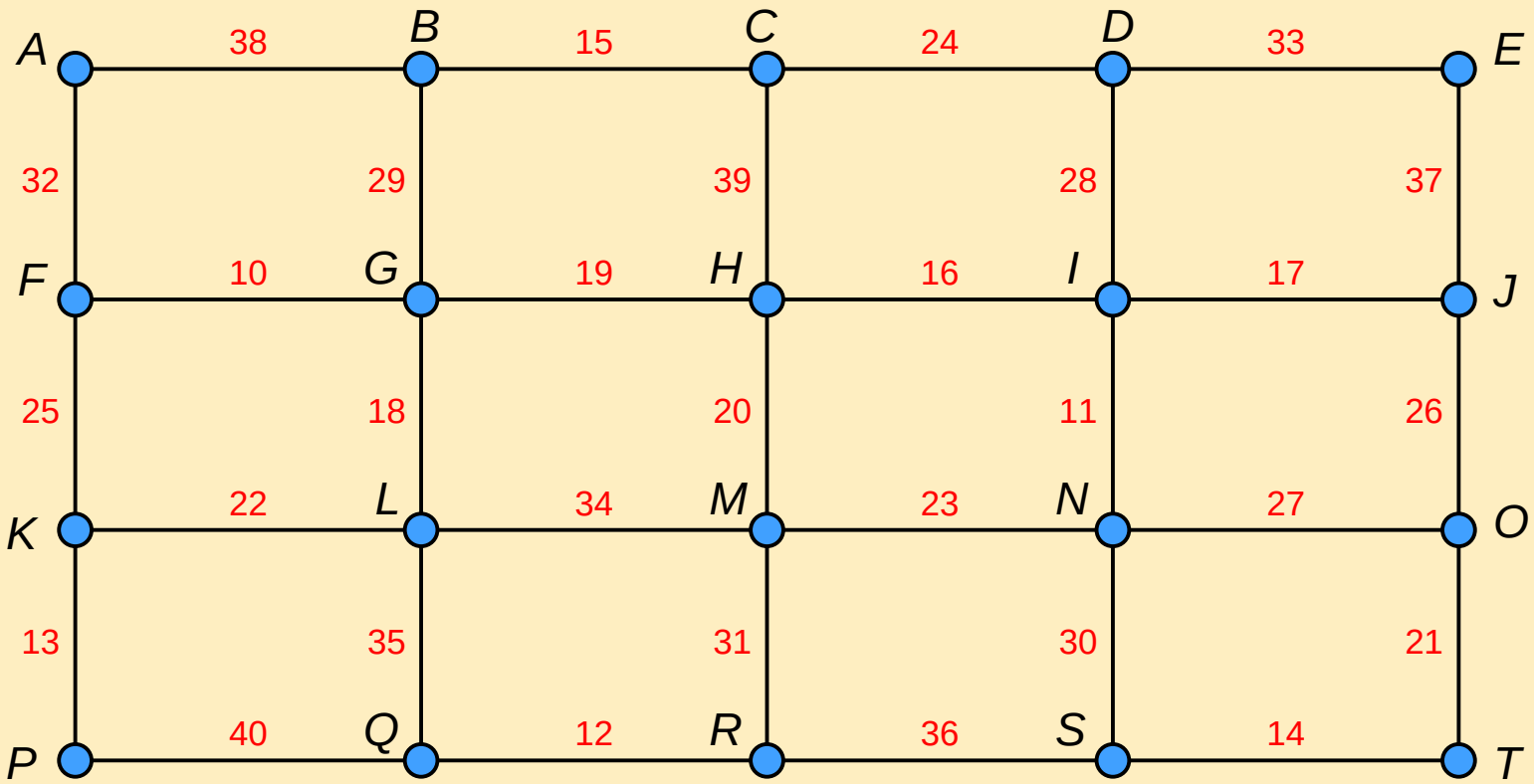

Use the cheapest-link algorithm.

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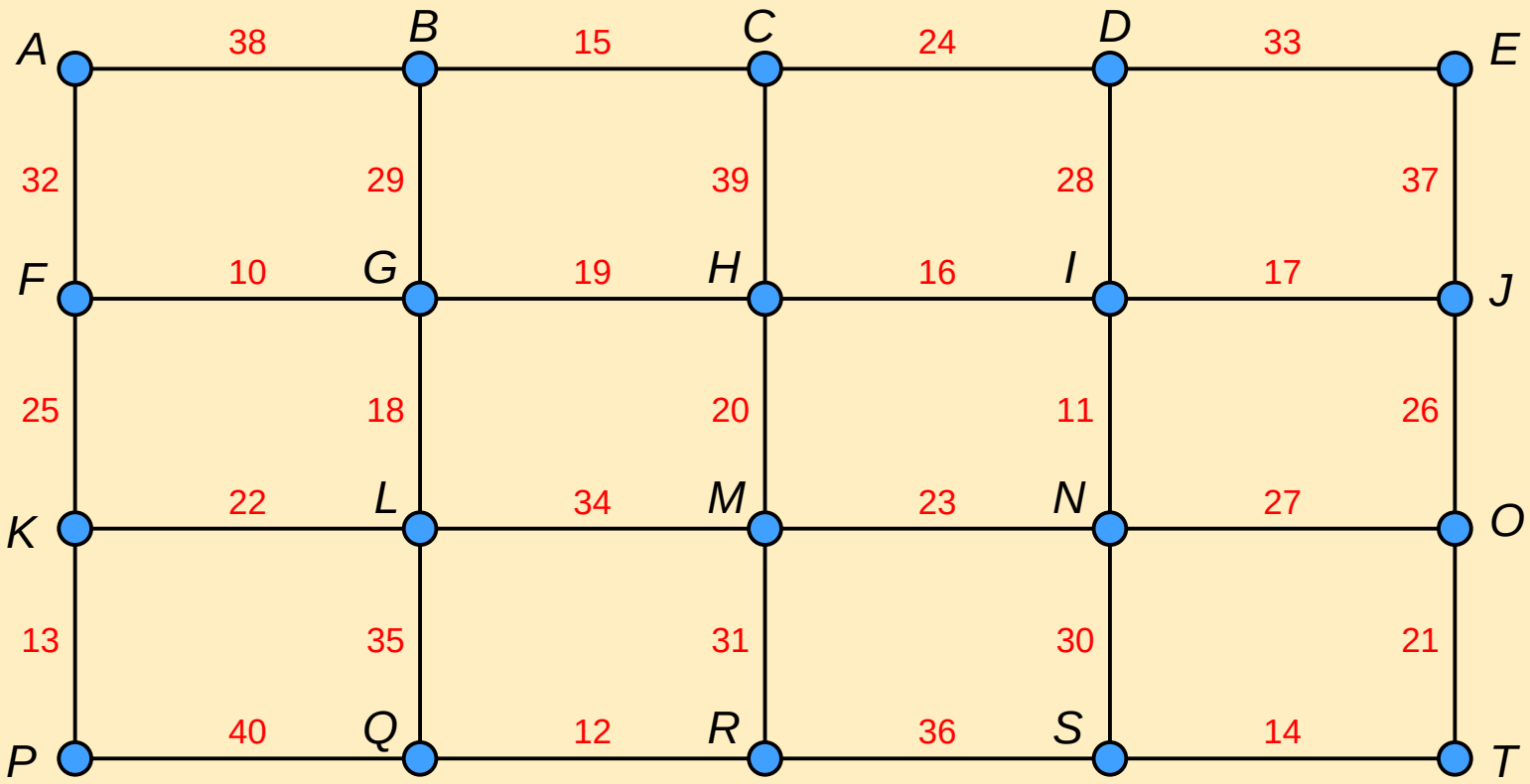

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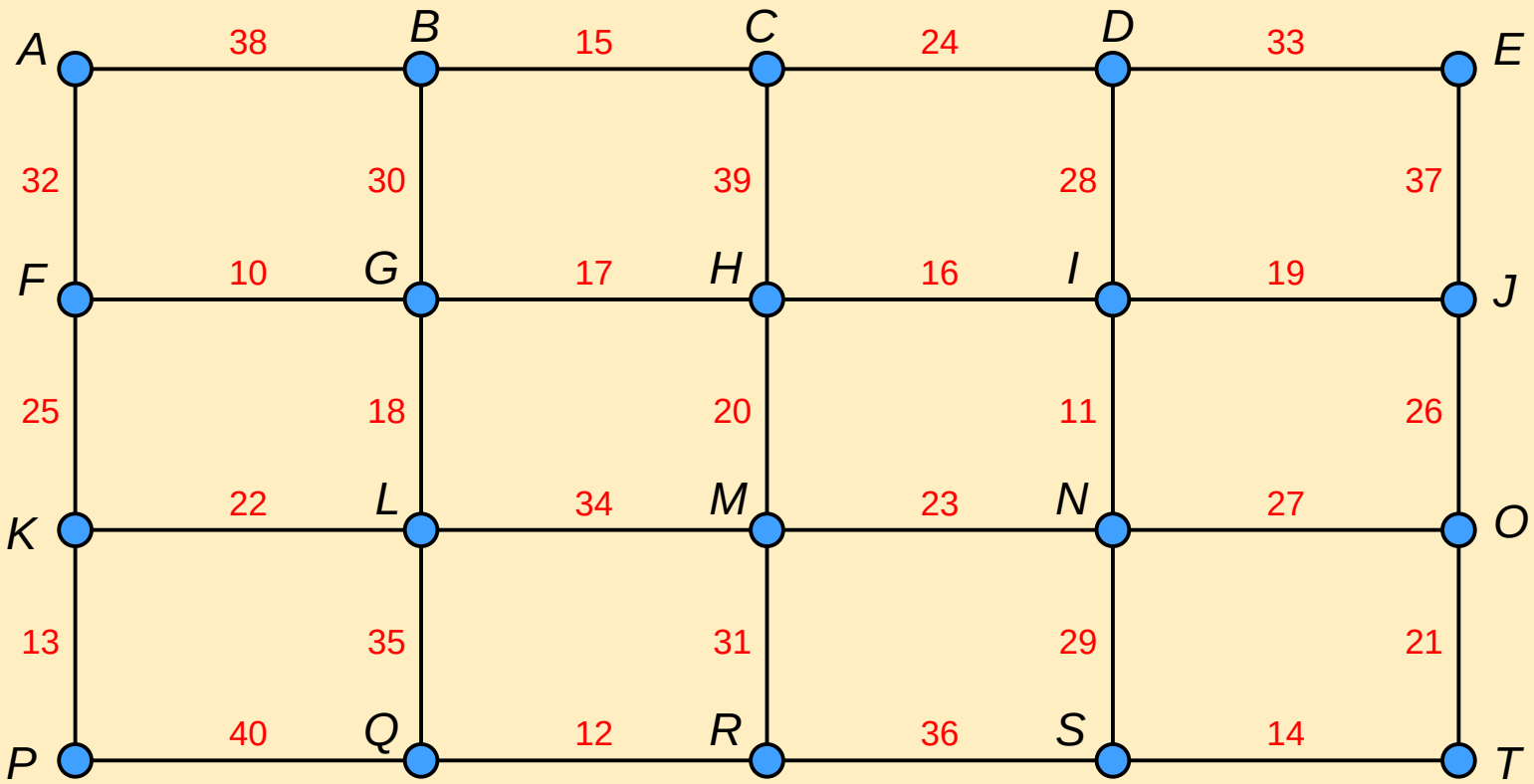

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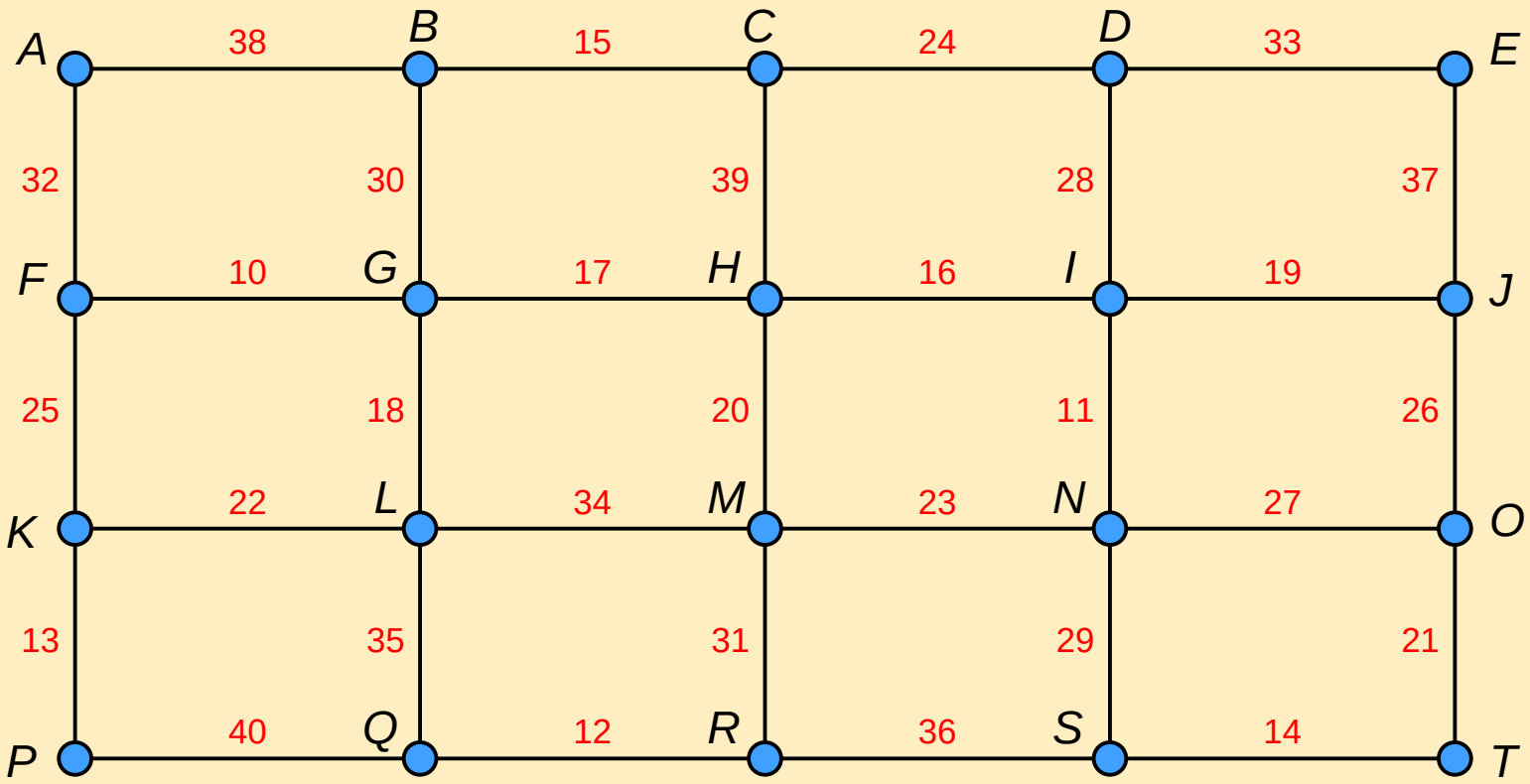

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- Chapter 6: Exercises 49, 50, 51, 52, 55, 56.