Graph Theory

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Master's Student, Applied Data Science

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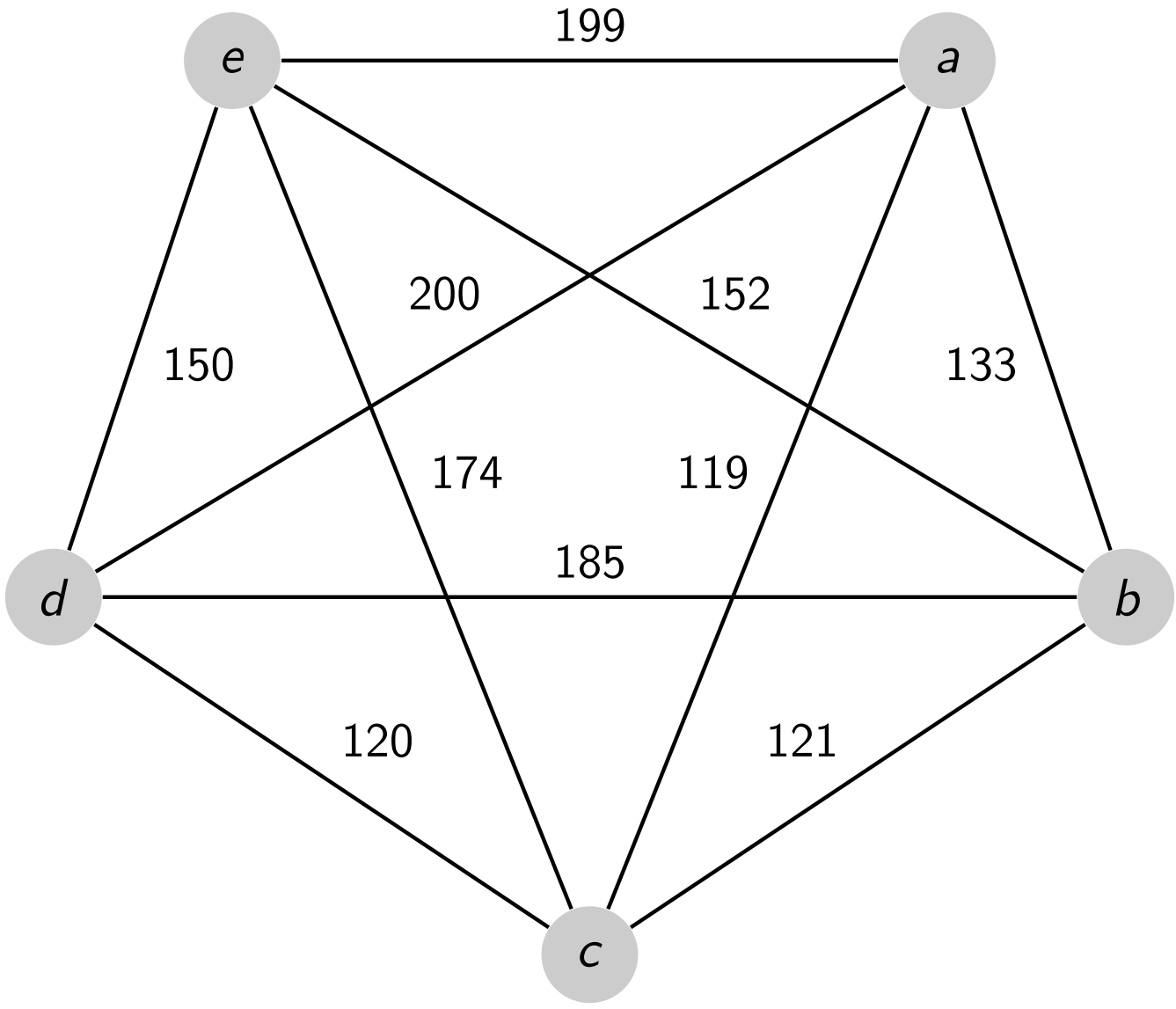
Outline

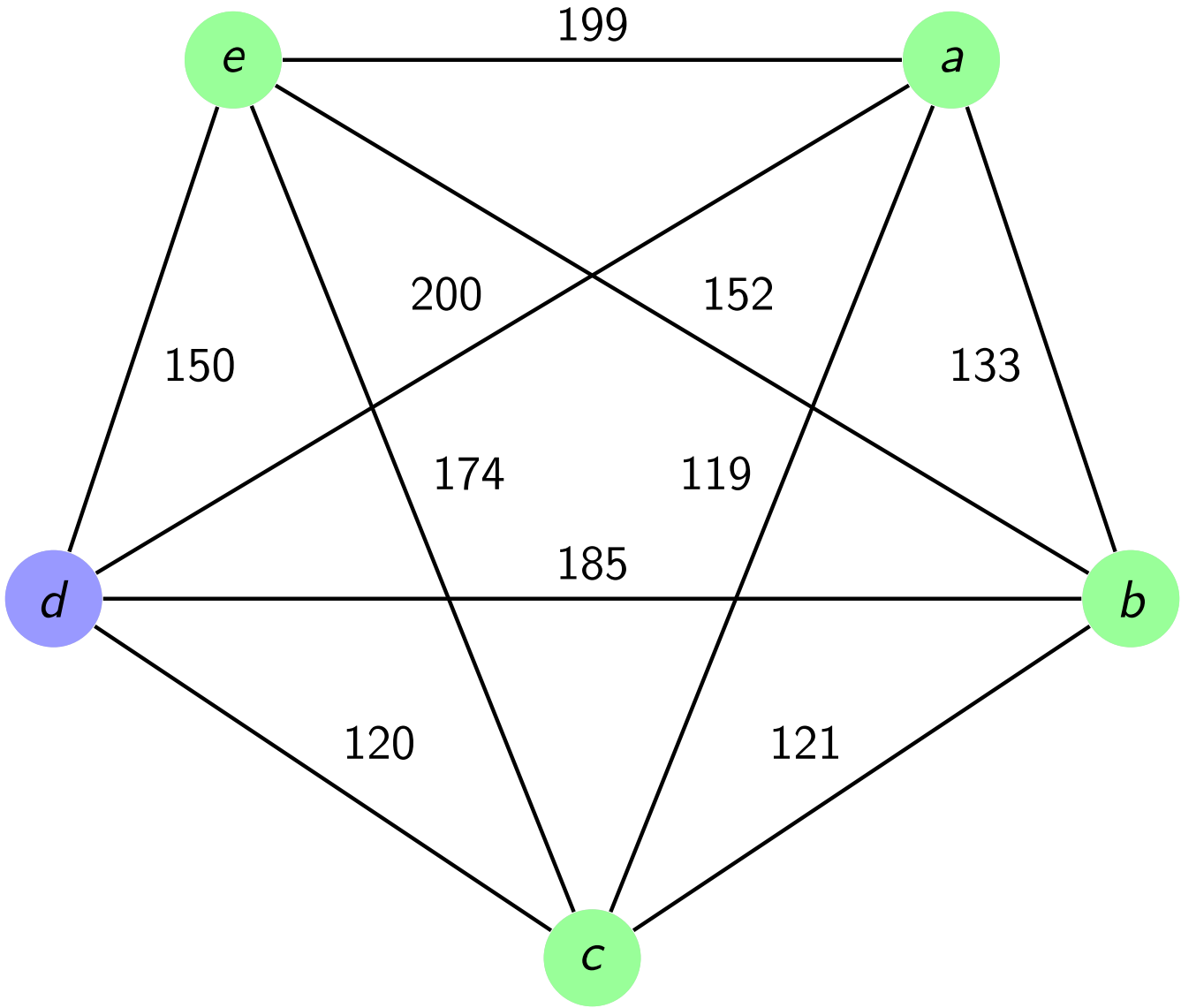
Graph Theory

- NN + SE Algorithms
- Kruskal's Algorithm
- Eulerian Circuits
- Hamiltonian Graphs

Hamiltonian Circuit Algorithms



Nearest Neighbor Algorithm (Starting at Vertex d)



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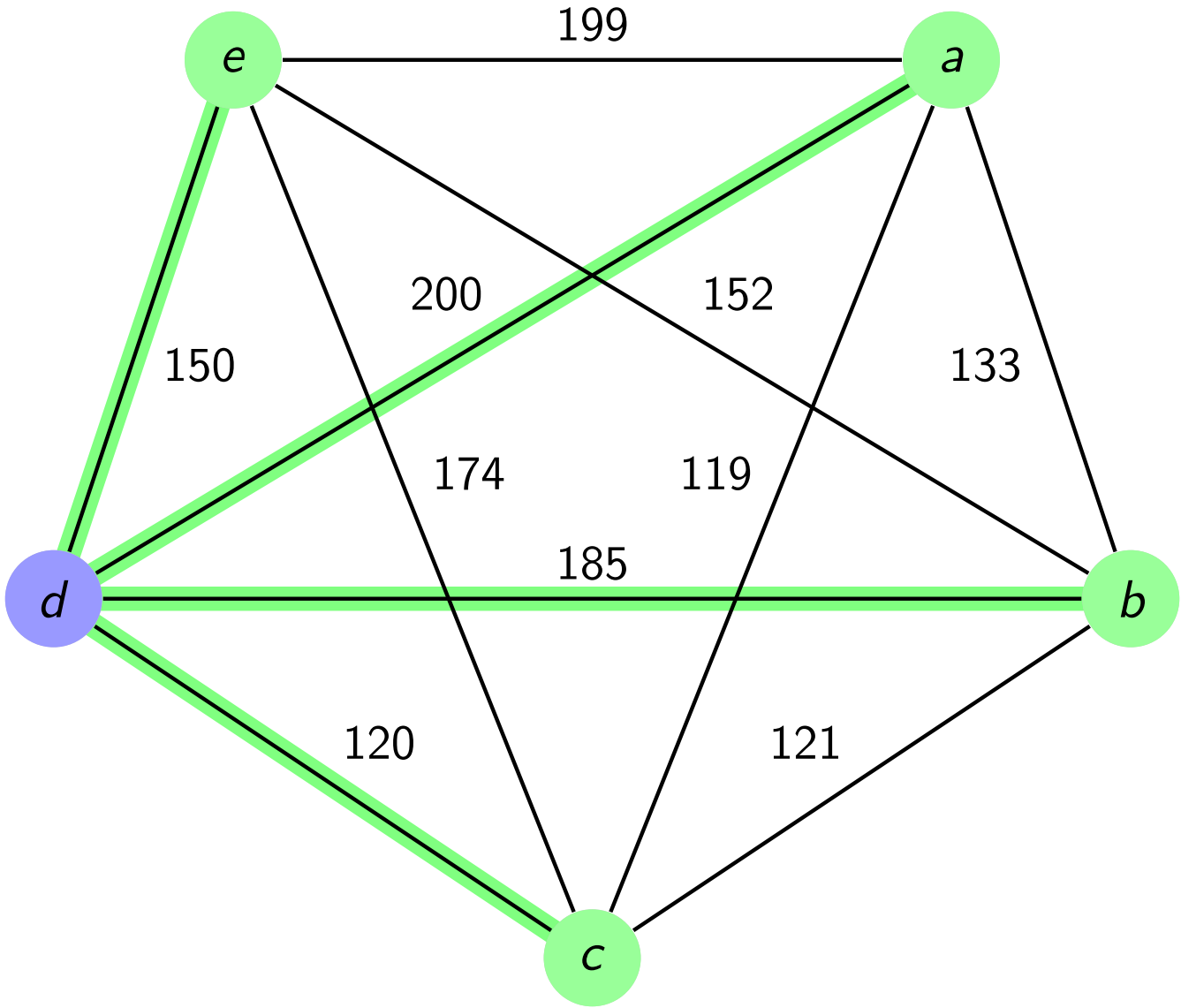

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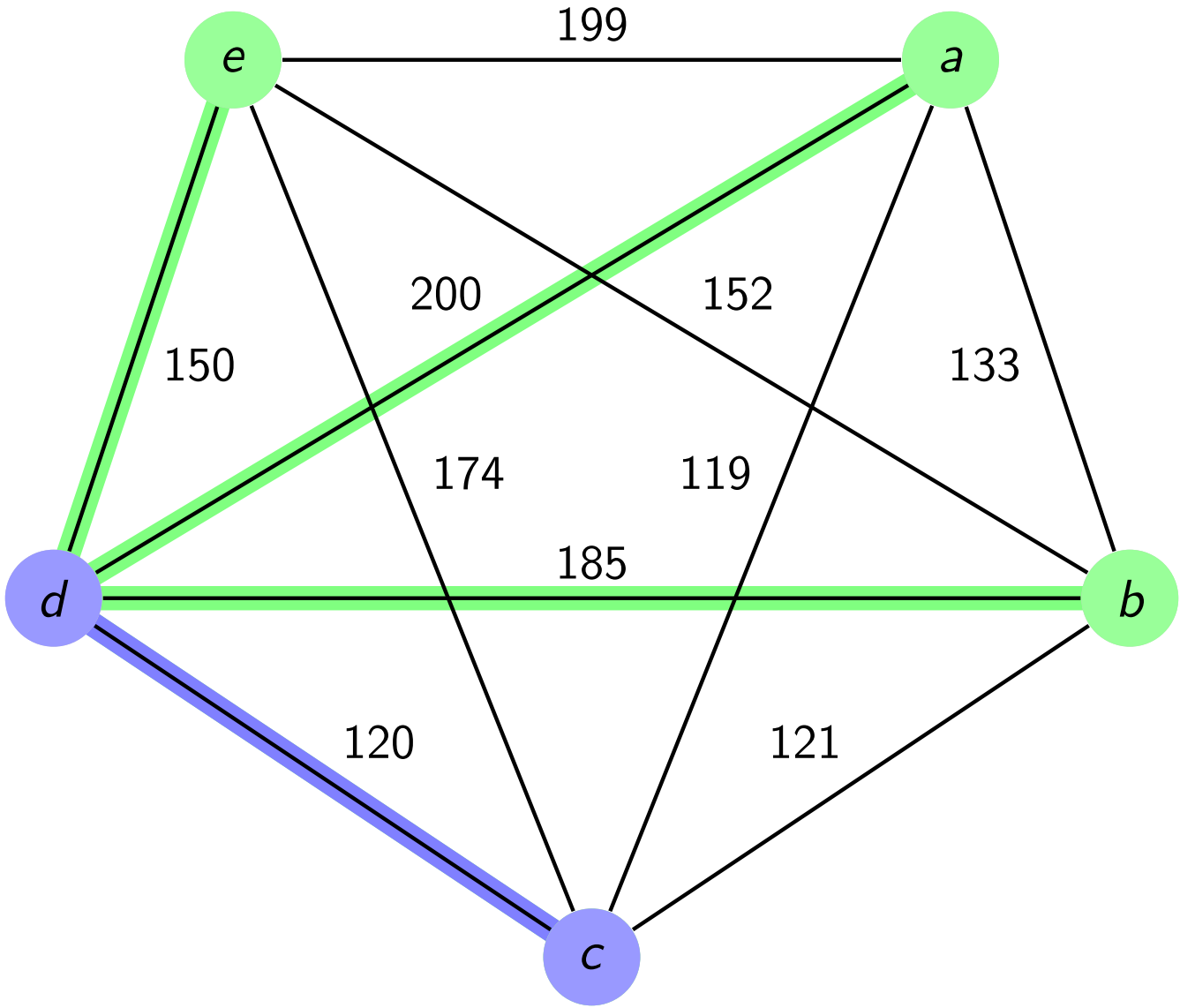

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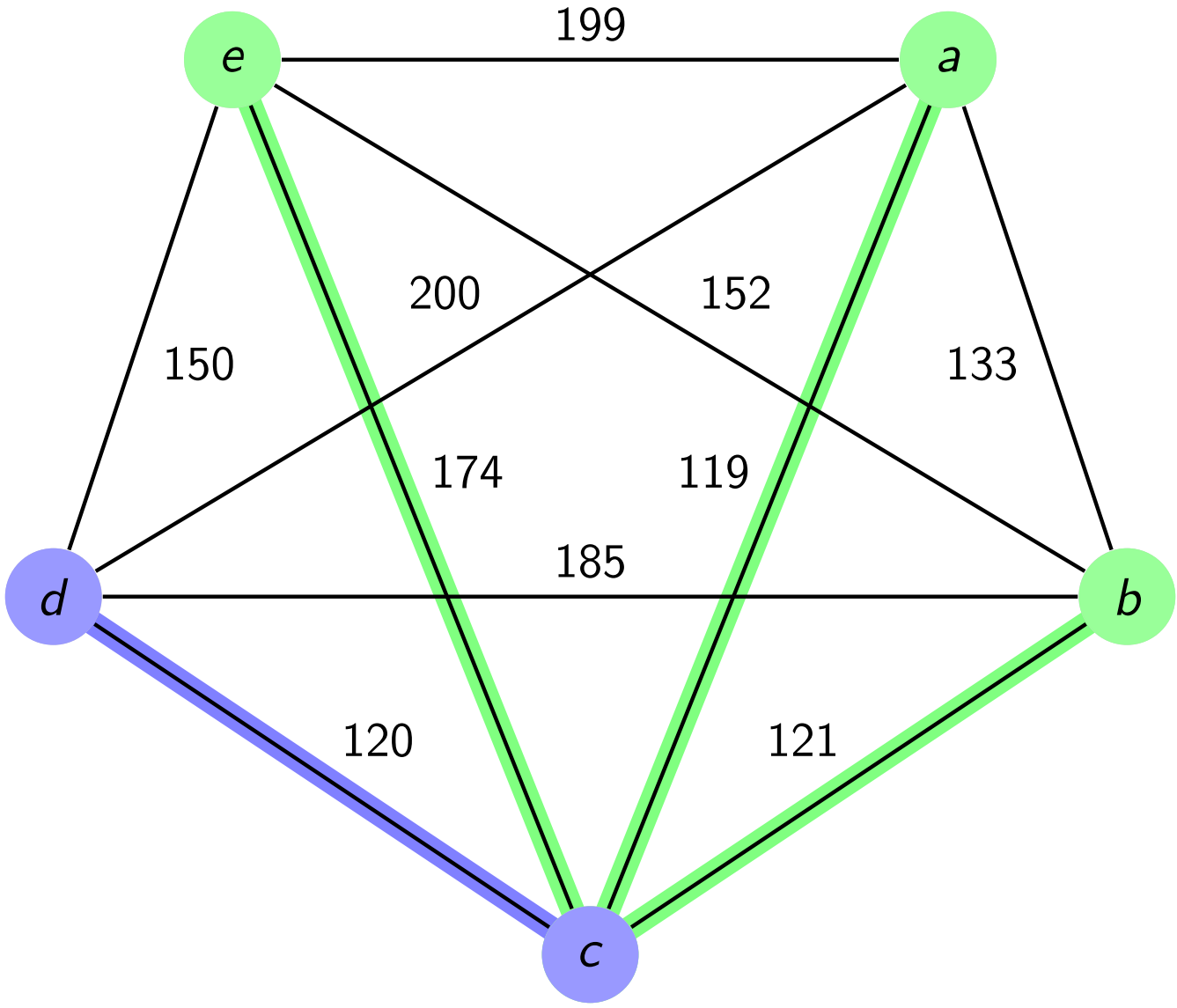

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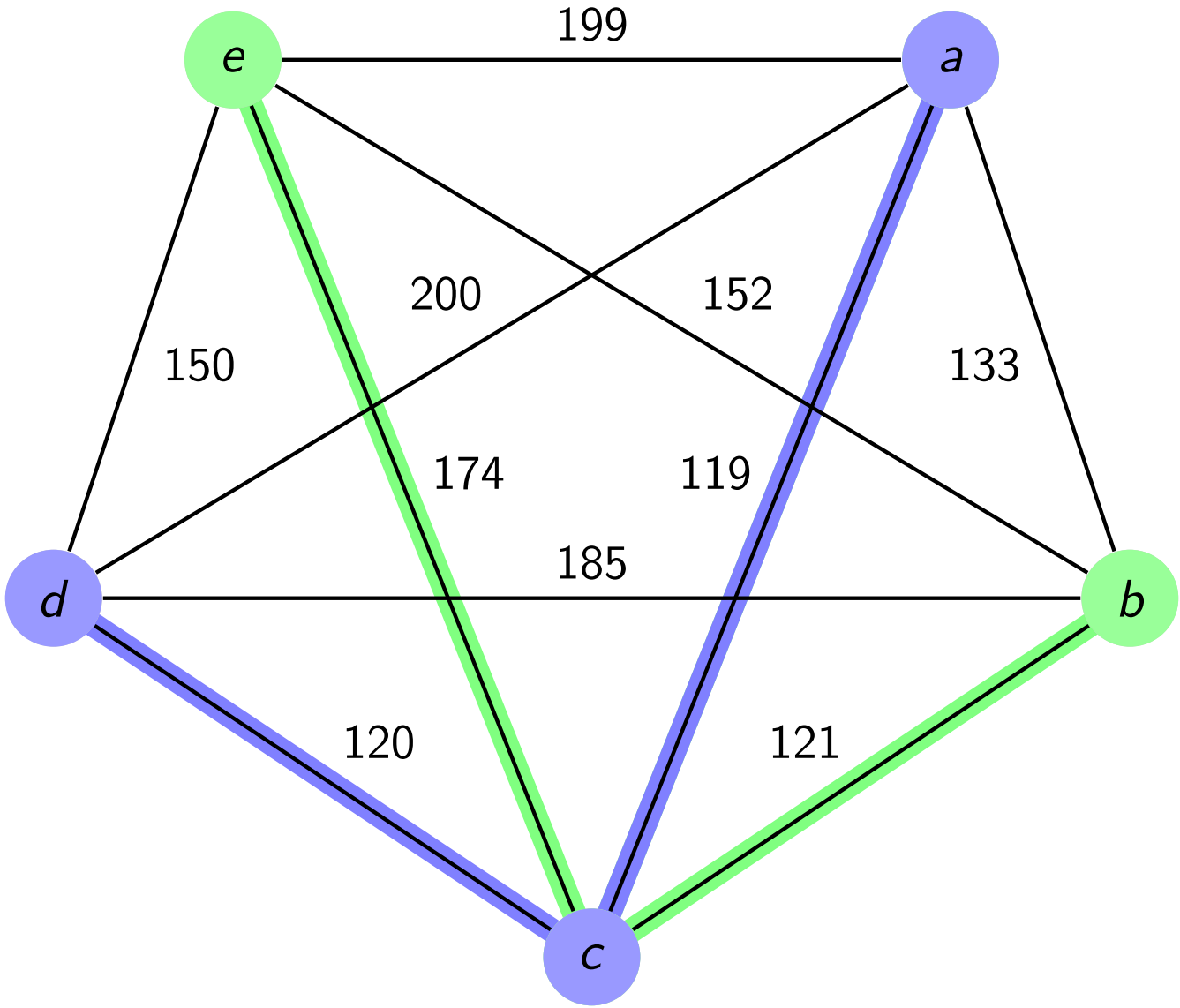

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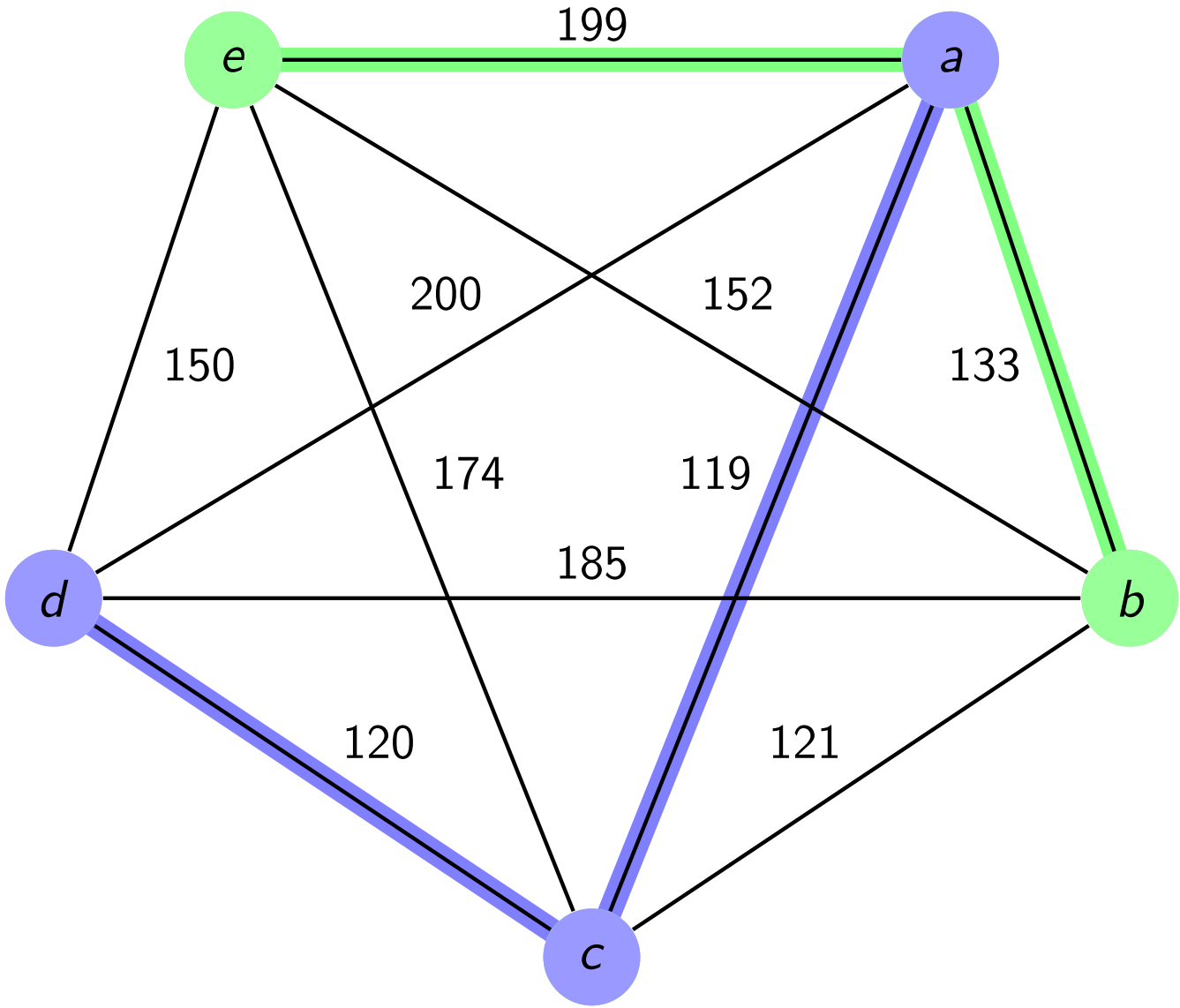

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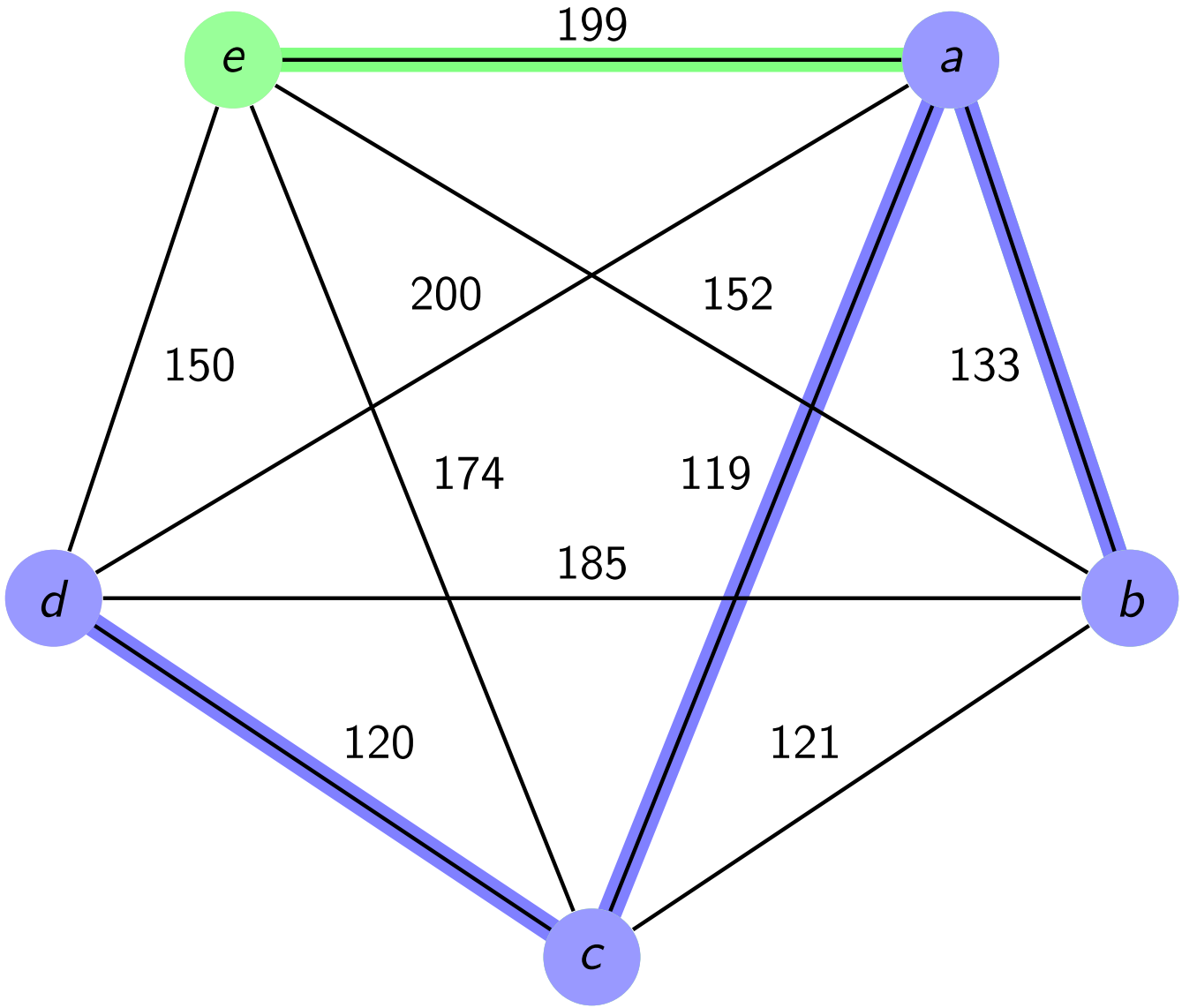

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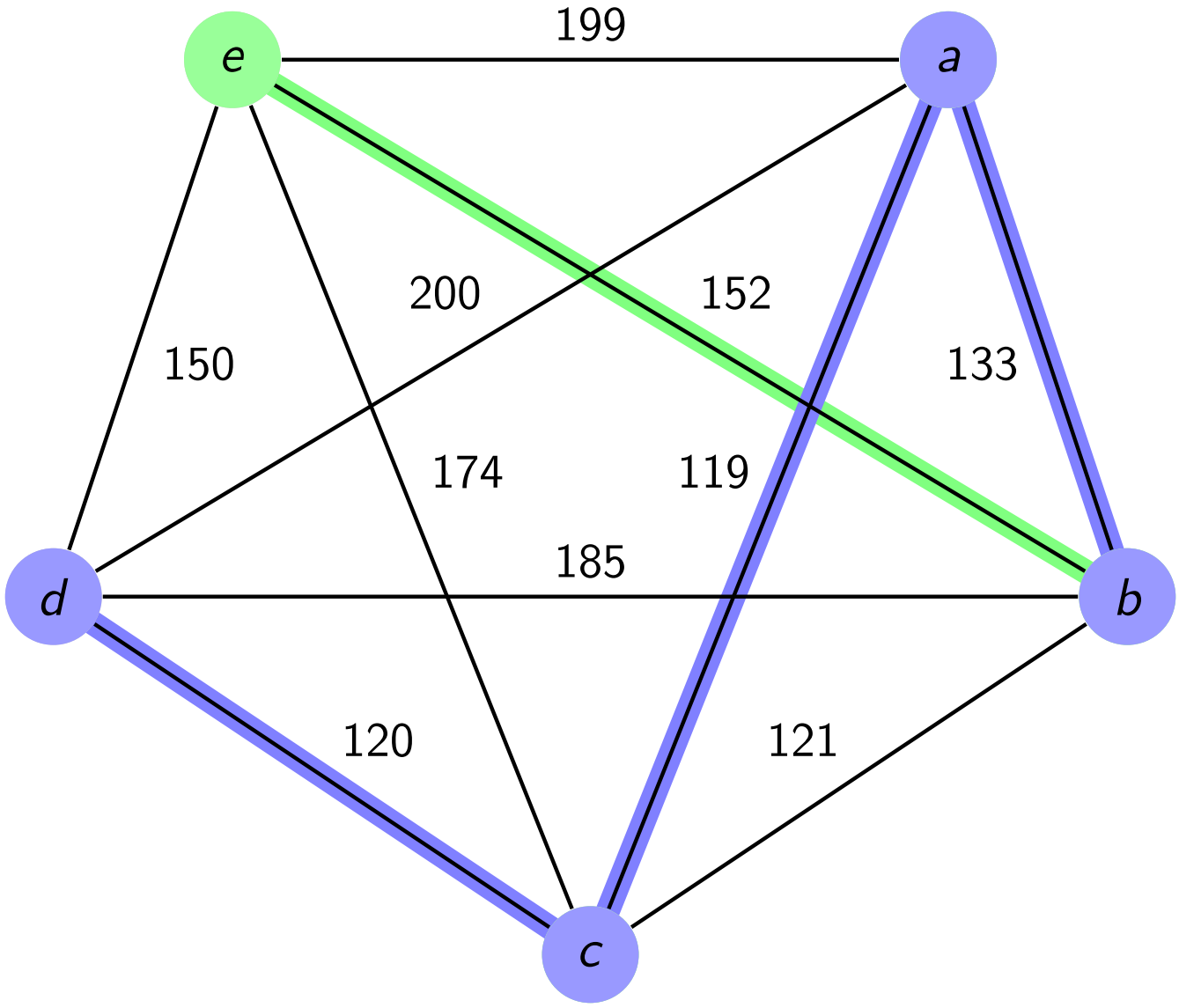

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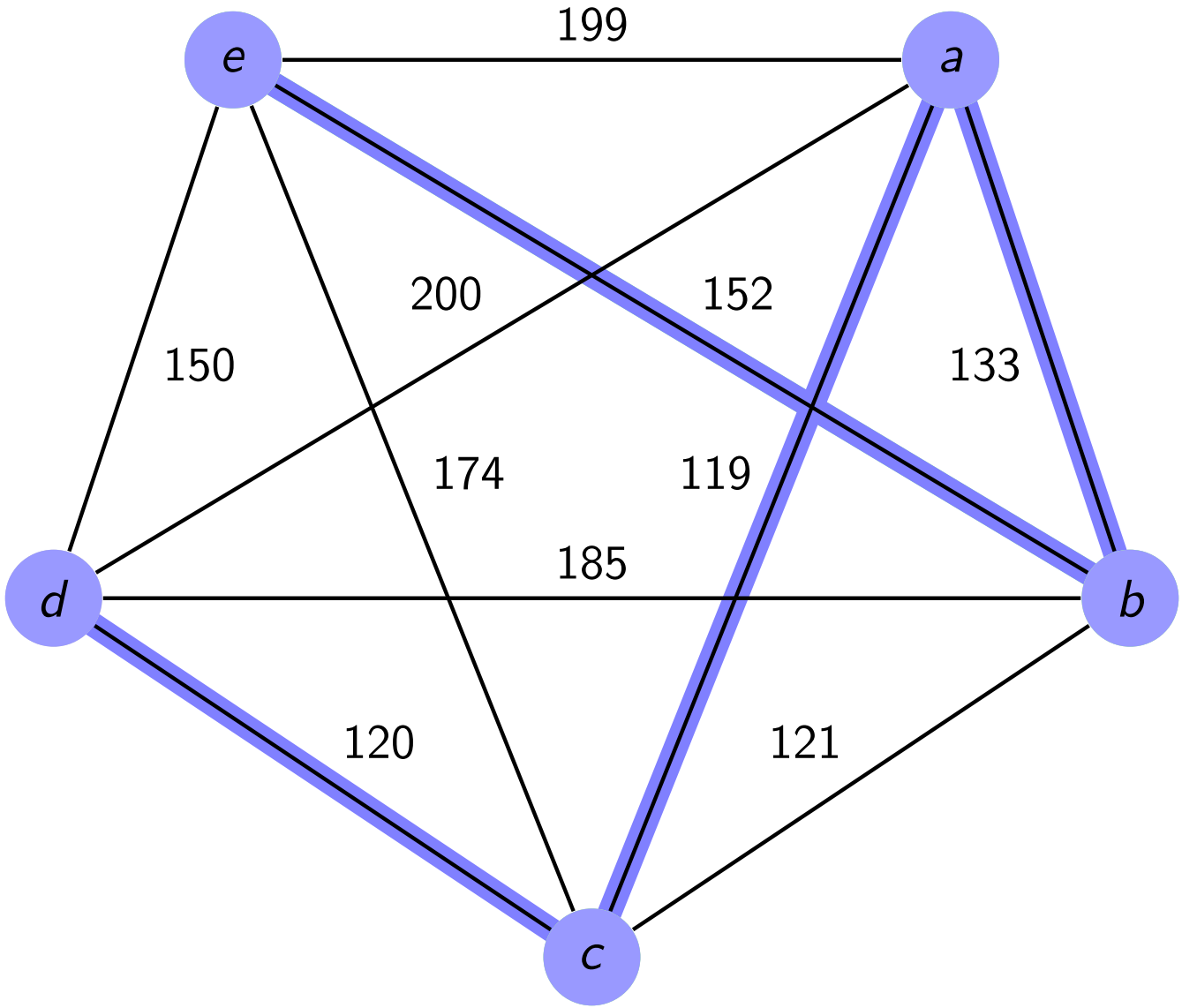

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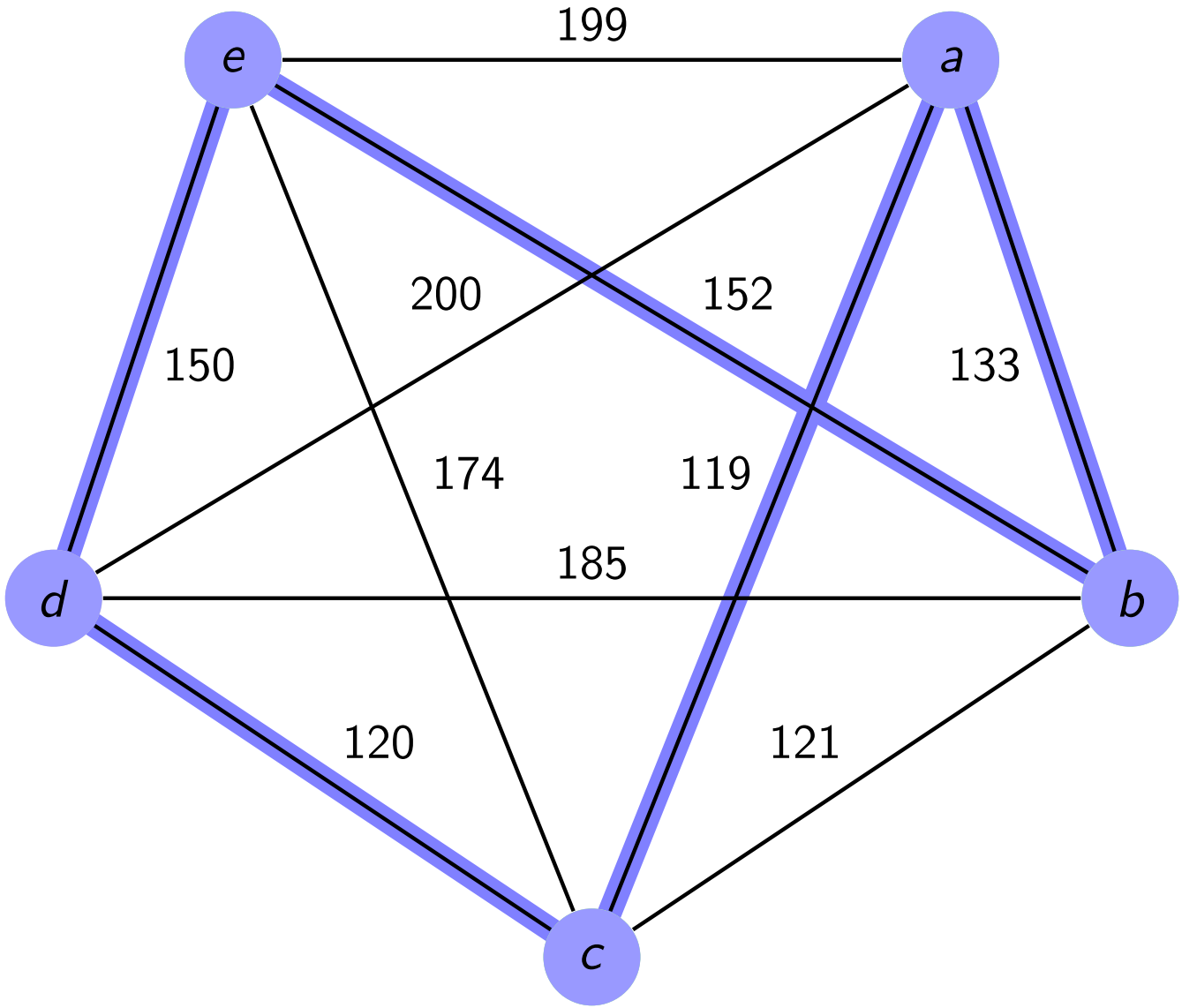
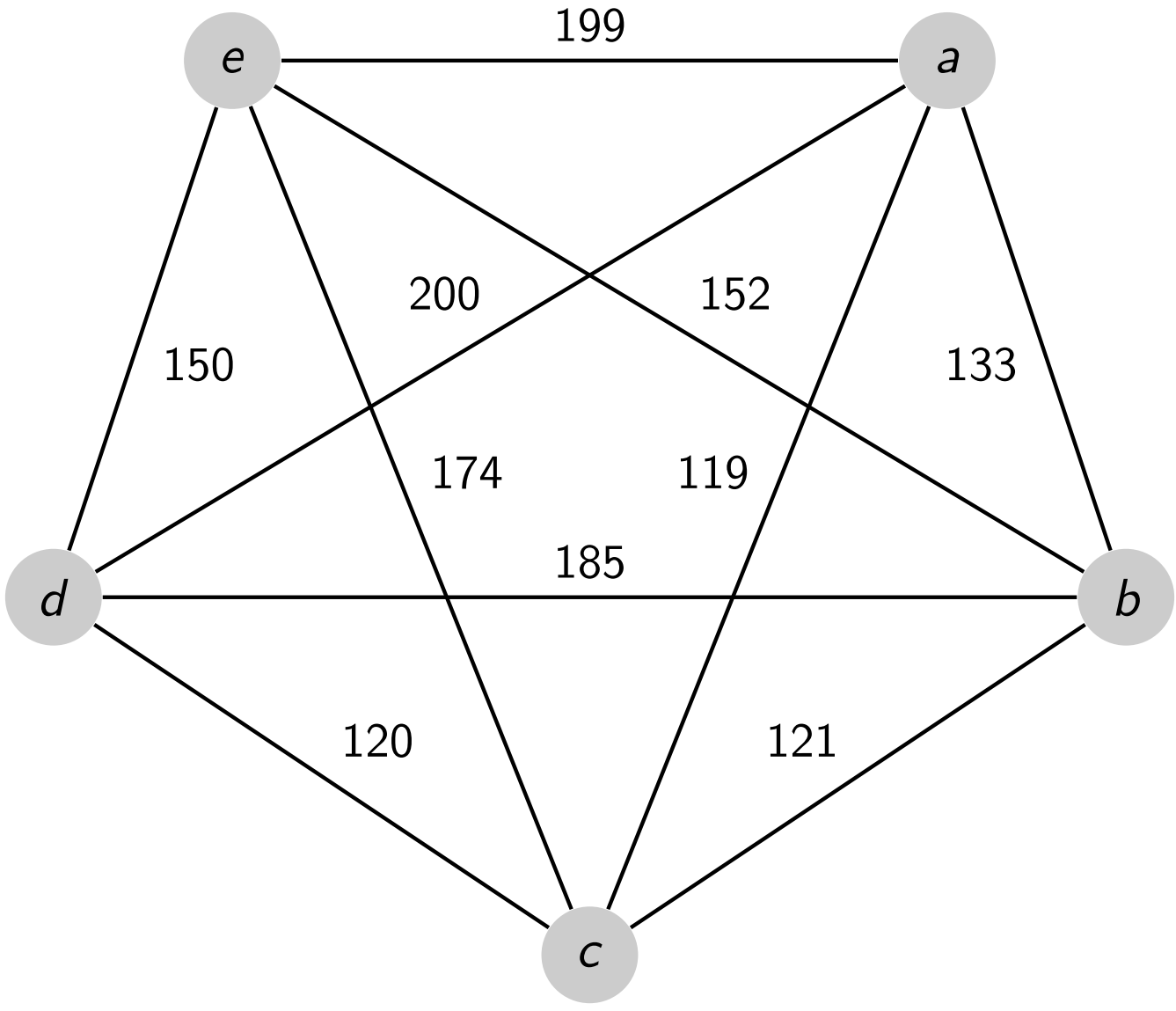


Sorted Edges (Cheapest Link) Algorithm



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The weights of the edges are:

$$133,\ 119,\ 200,\ 199,\ 121,\ 185,\ 152,\ 120,\ 174,\ 150.$$

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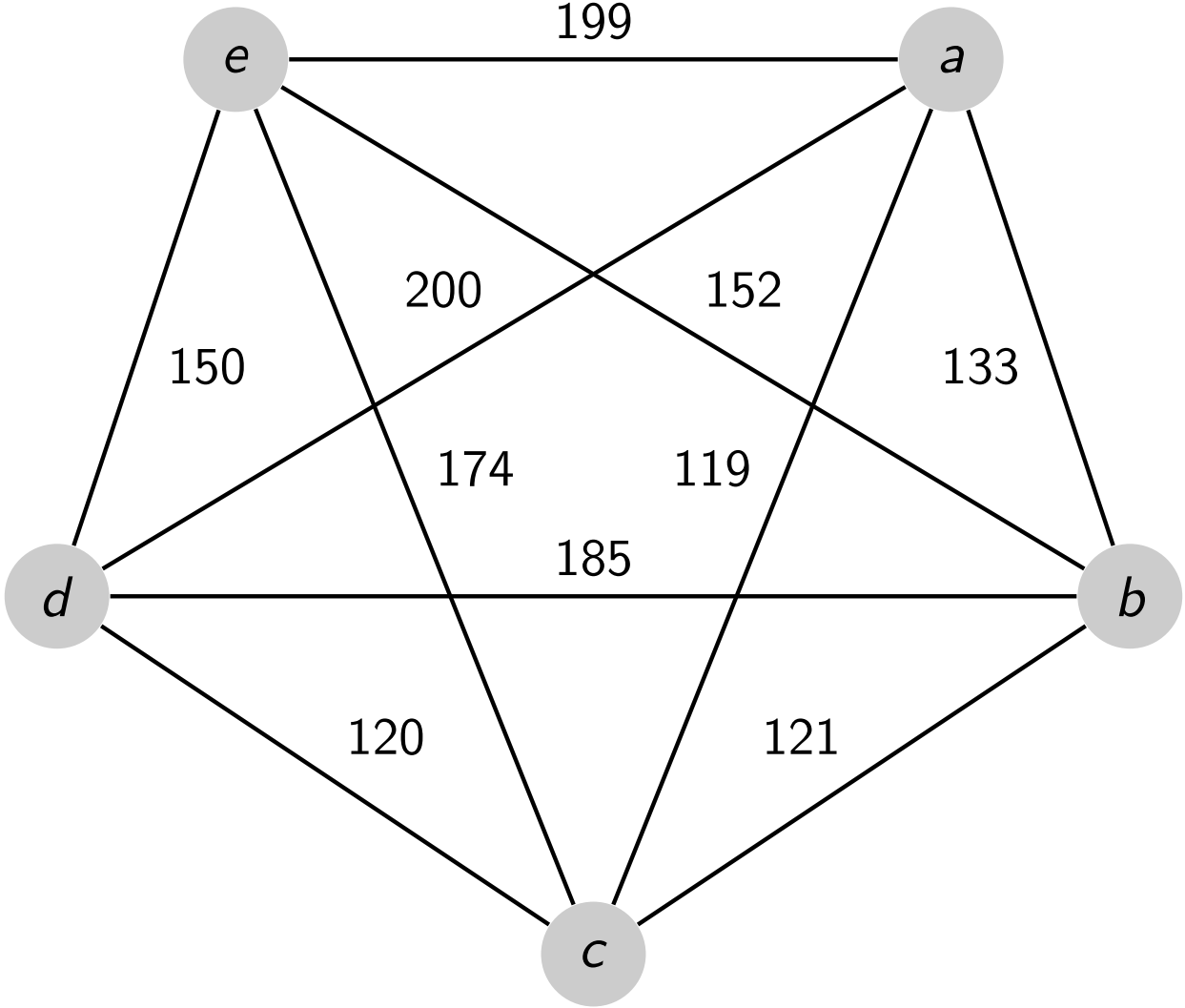
Now we can proceed to construct a Hamiltonian circuit using the Cheapest Link Algorithm.

Sorted Edges (Cheapest Link) Algorithm

119, 120, 121, 133, 150, 152, 174, 185, 199, 200.



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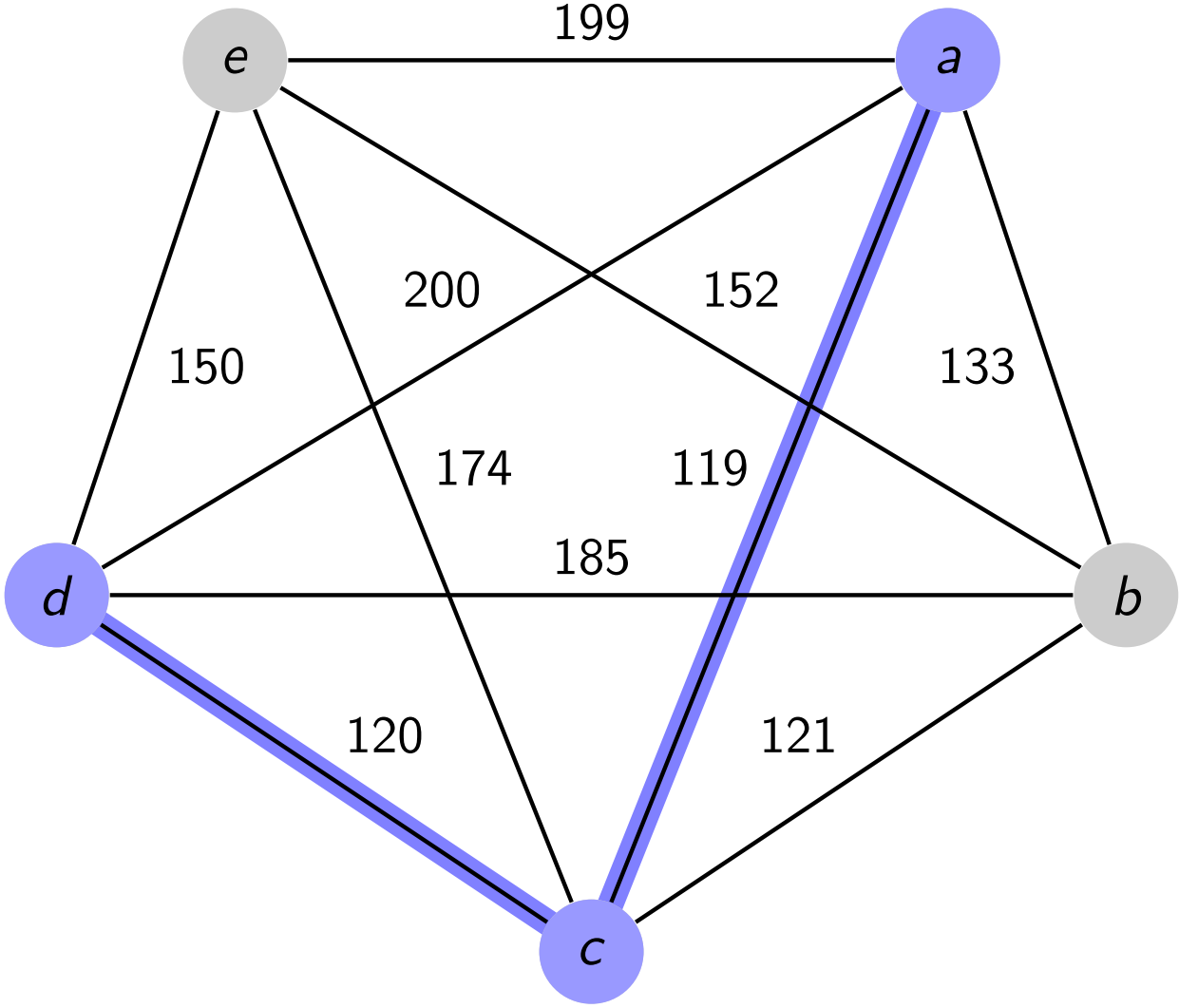

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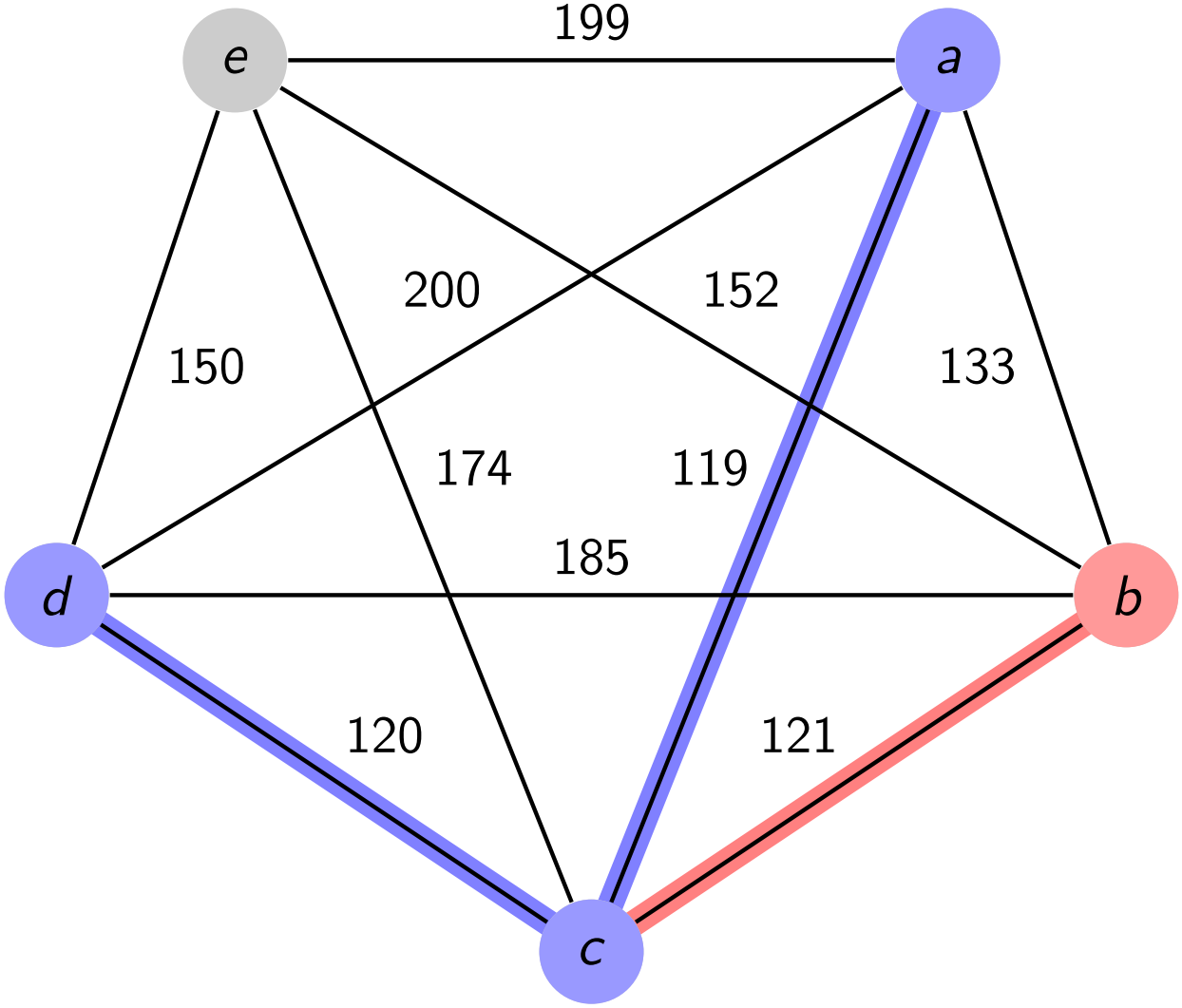

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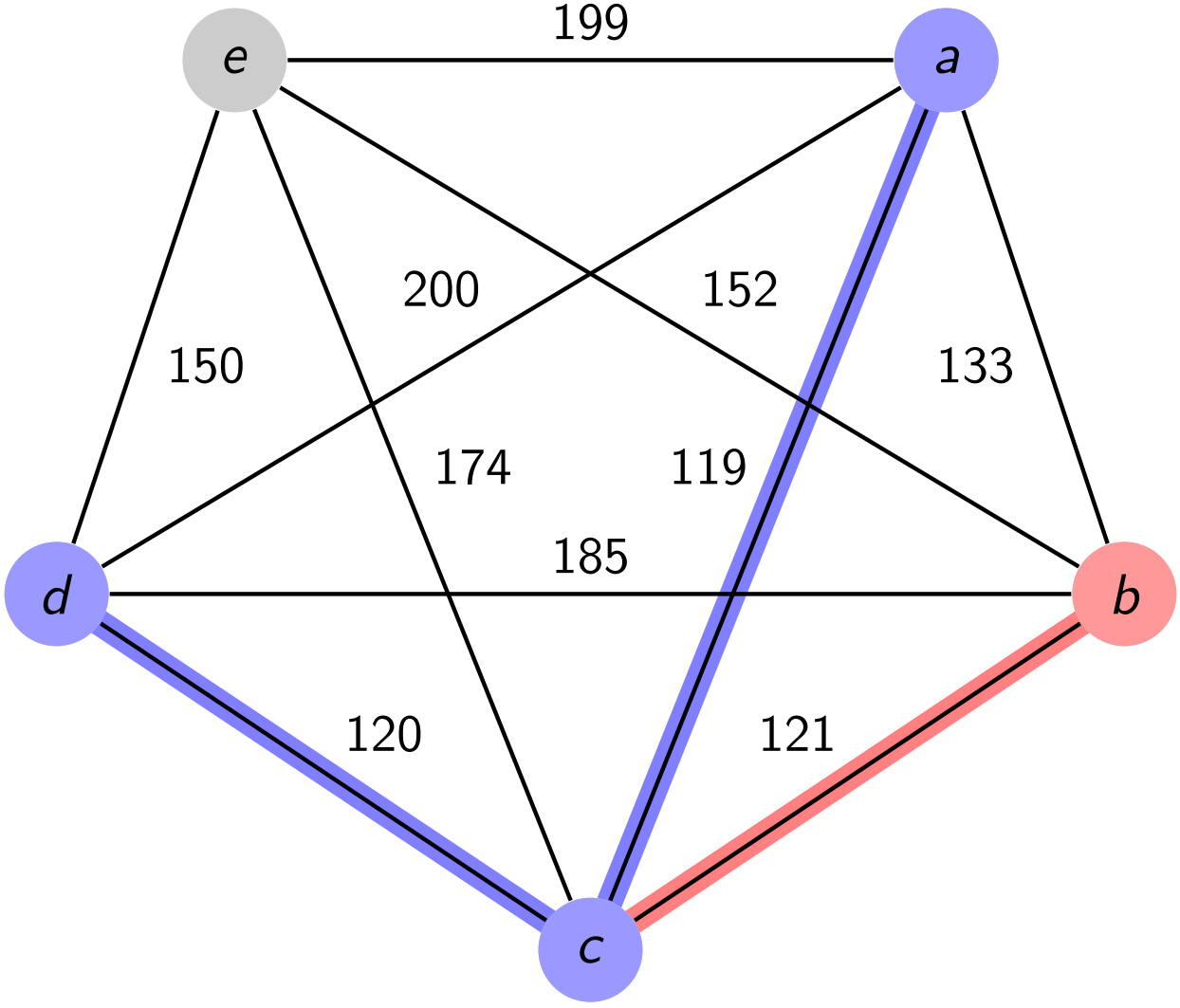

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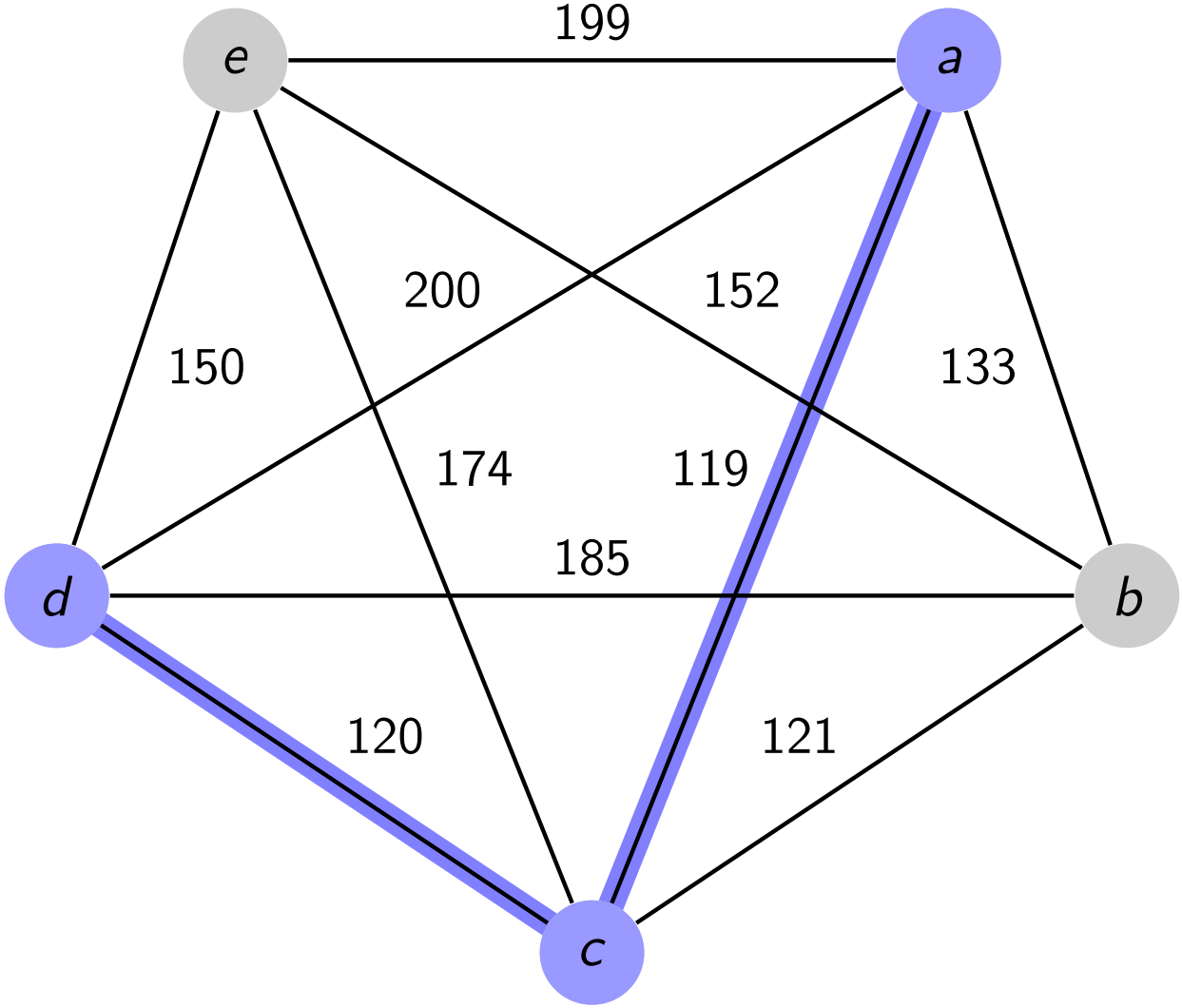

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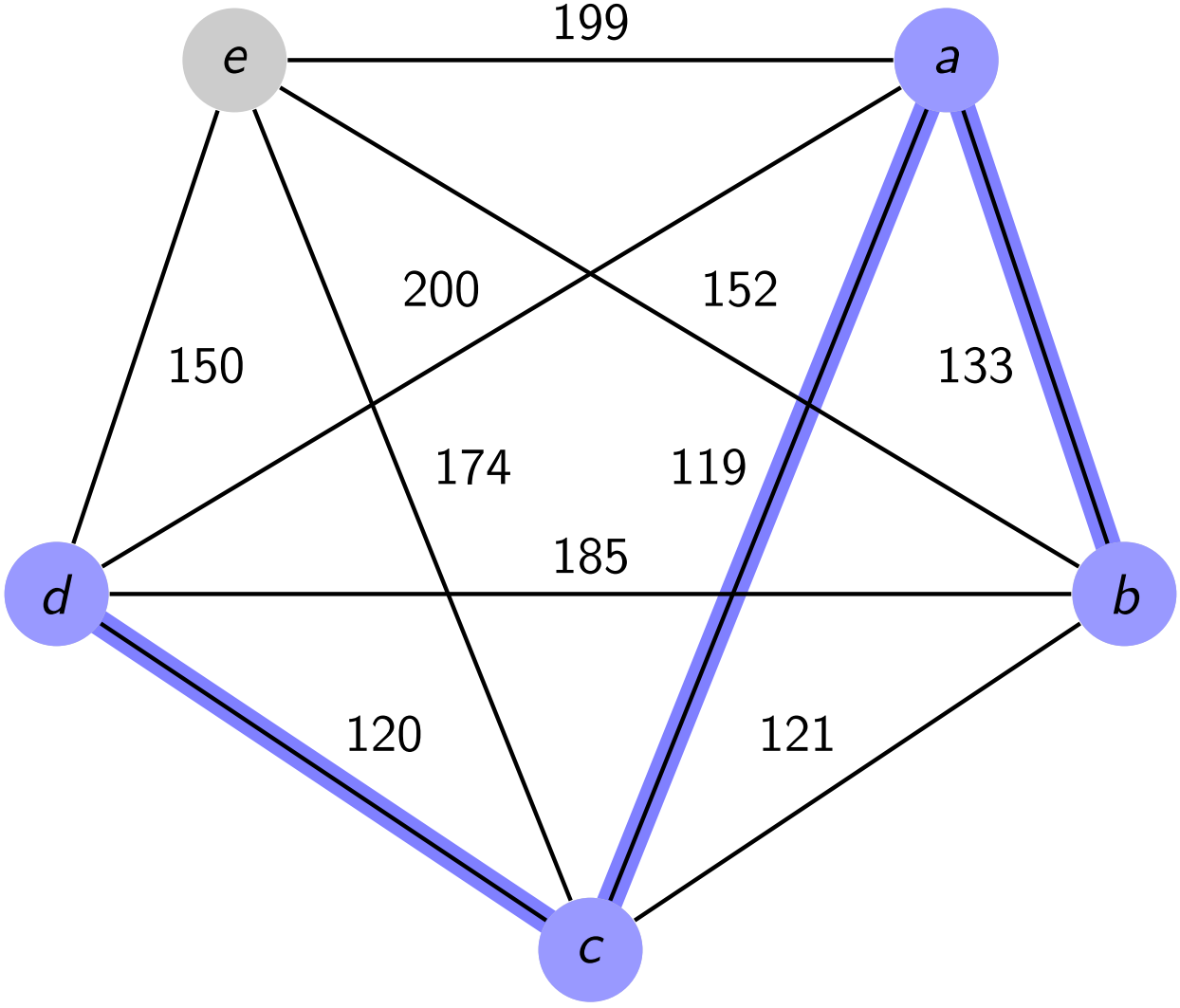

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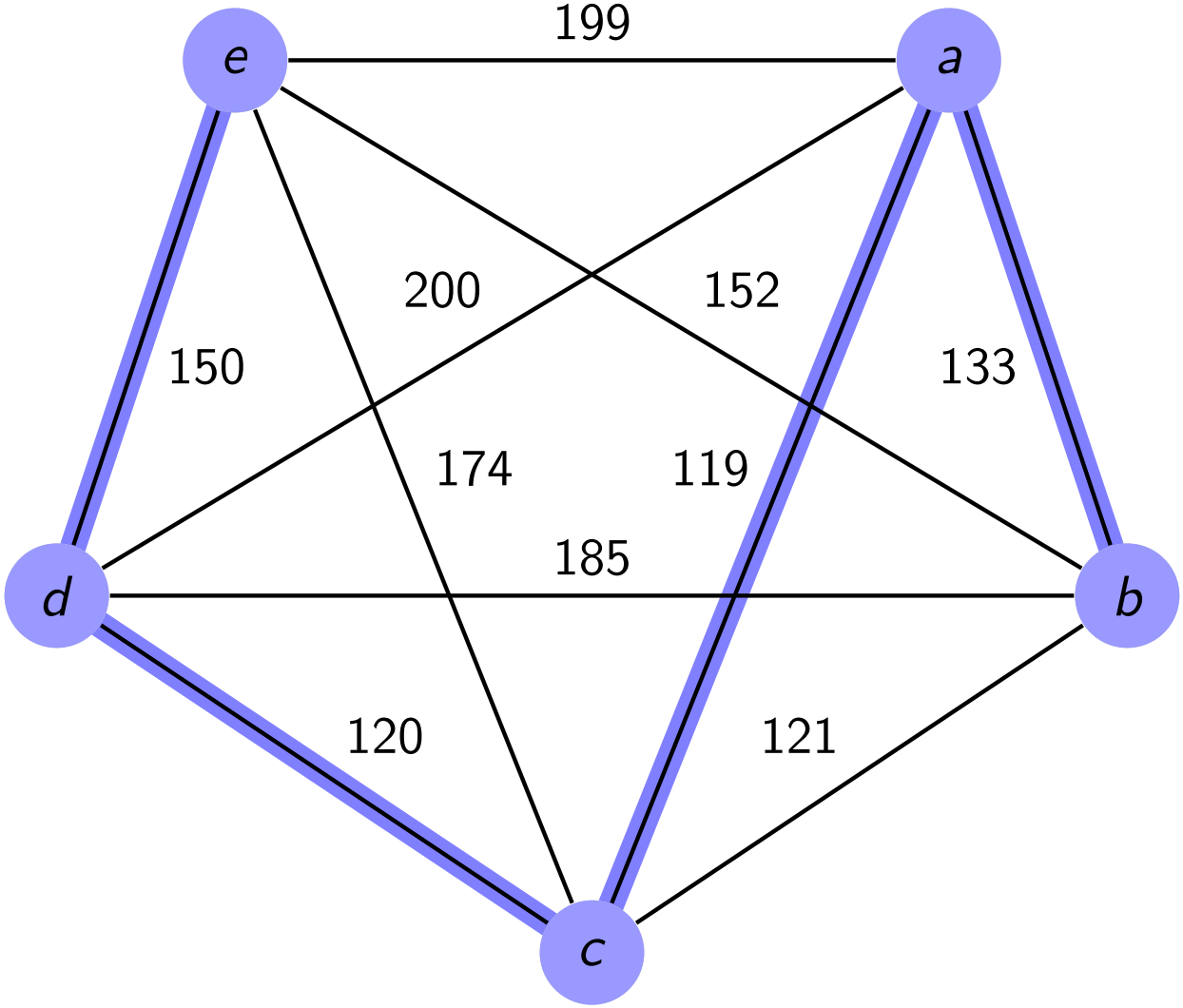

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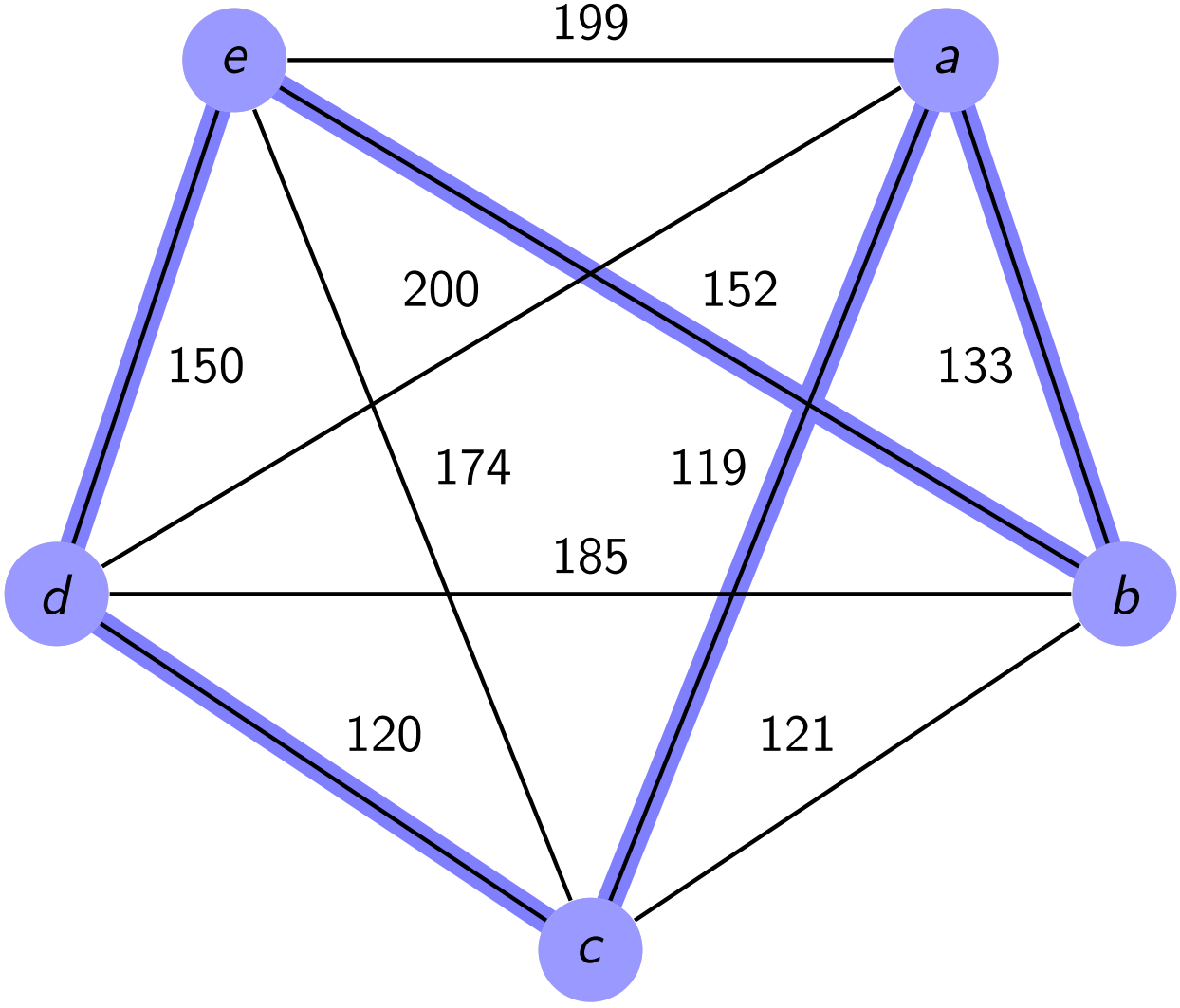

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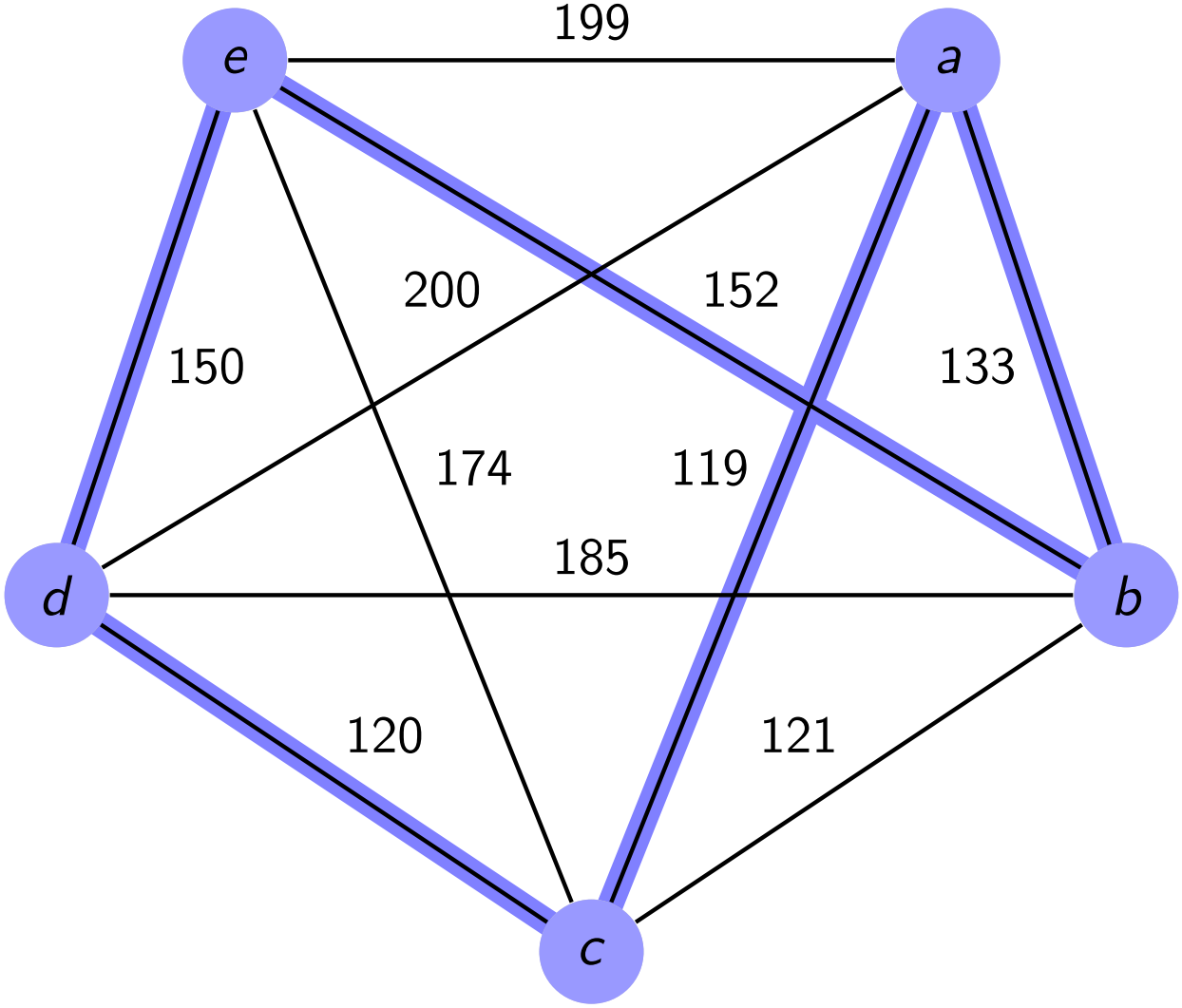
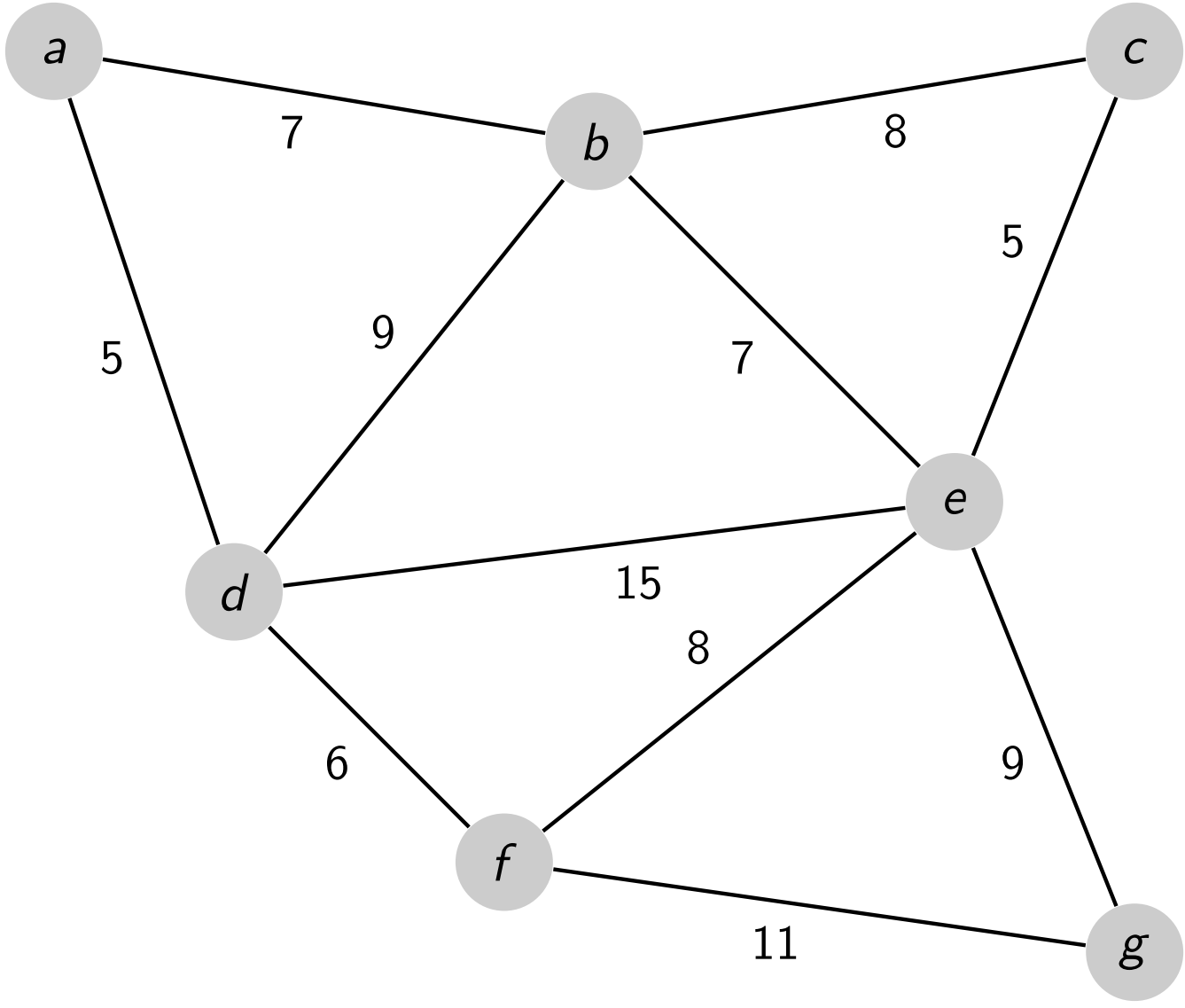


Kruskal's Algorithm



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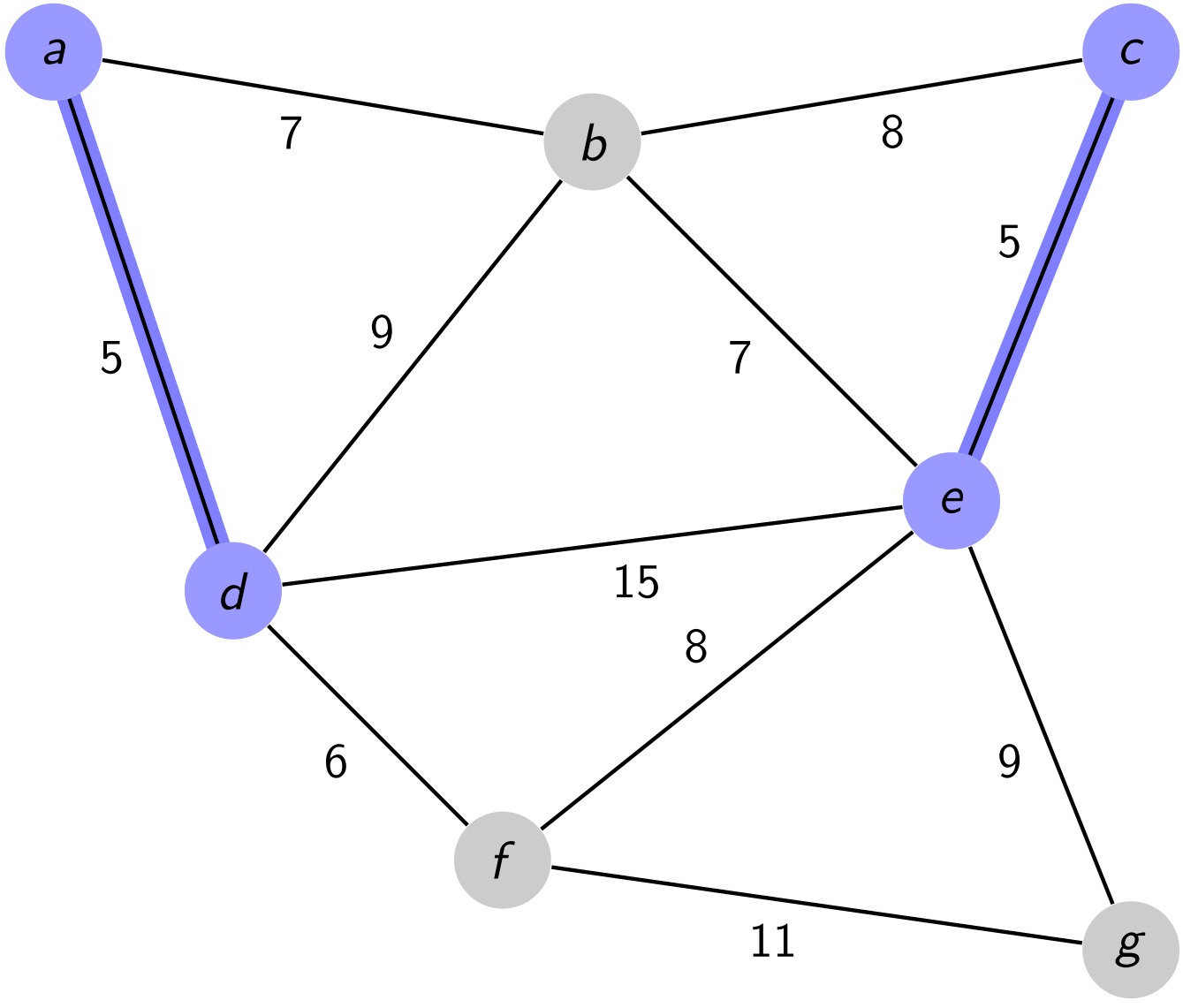

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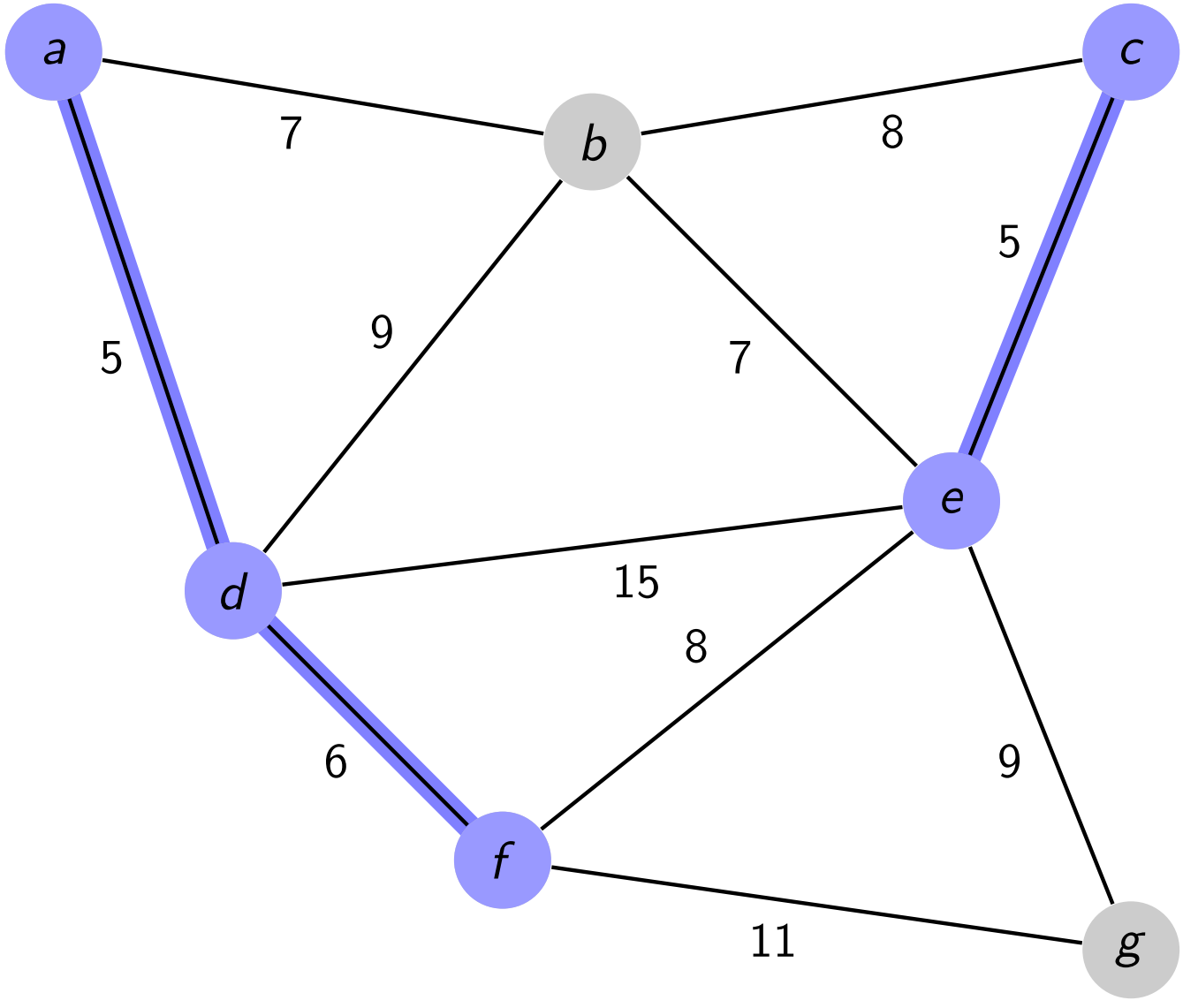

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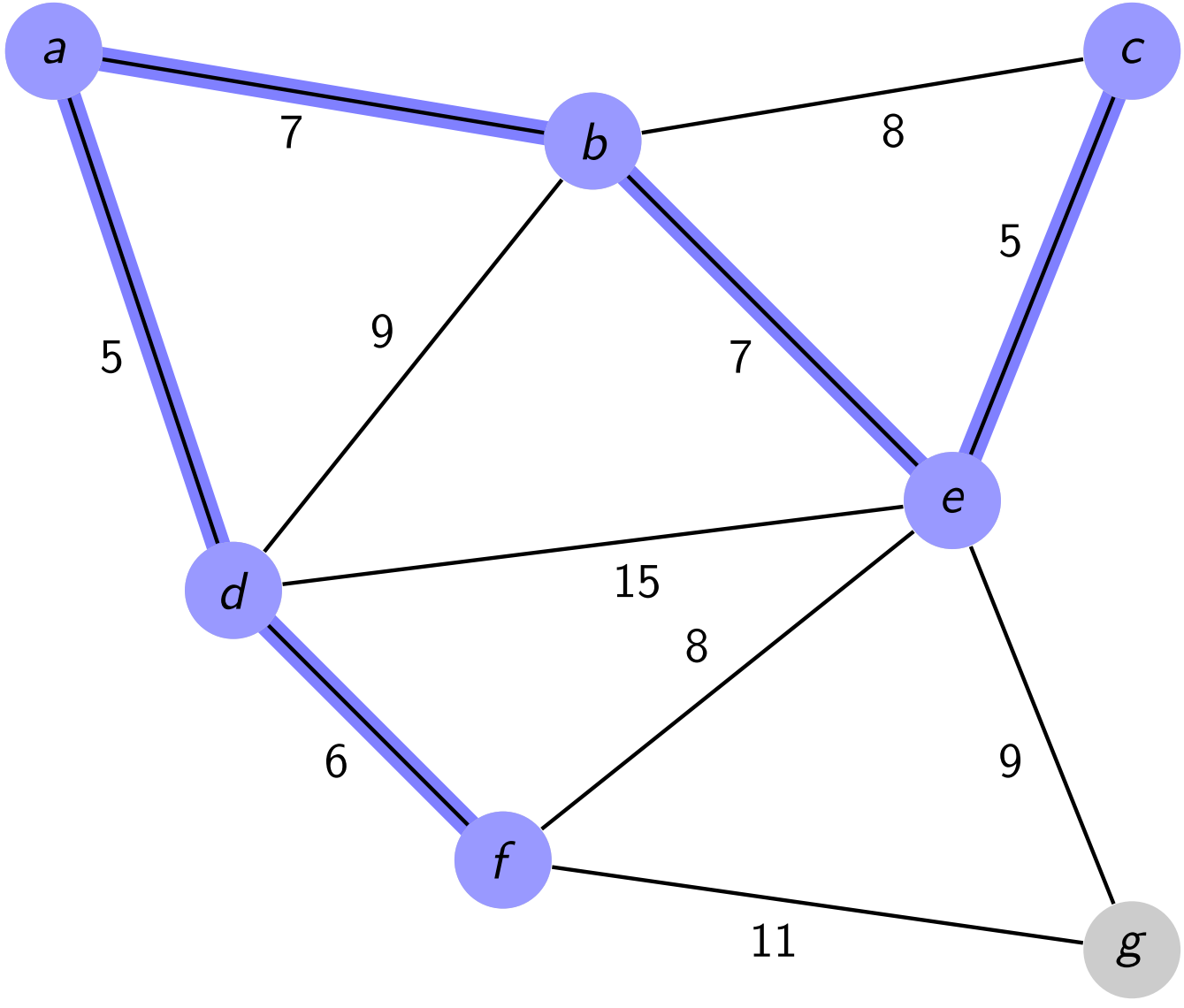

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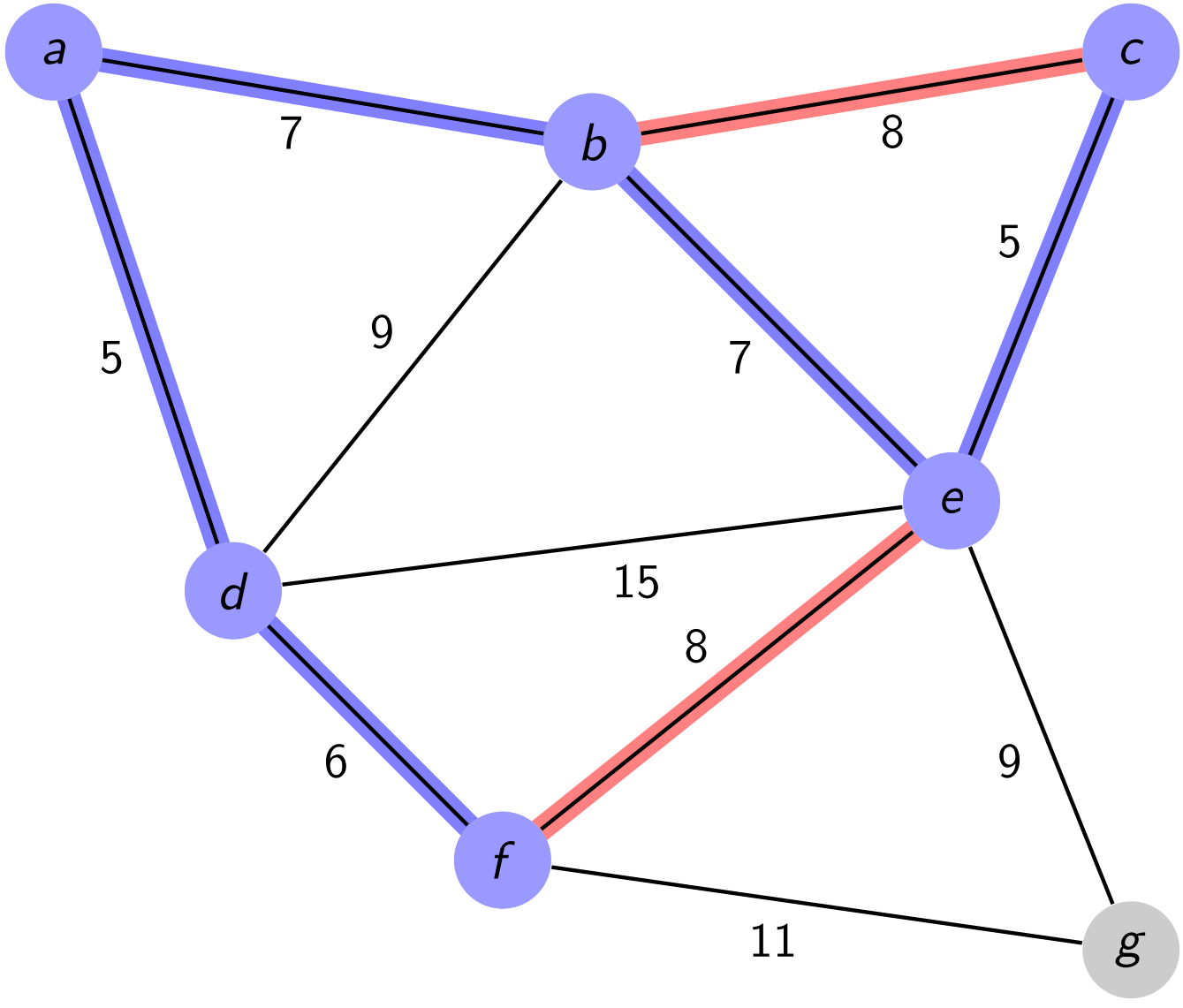

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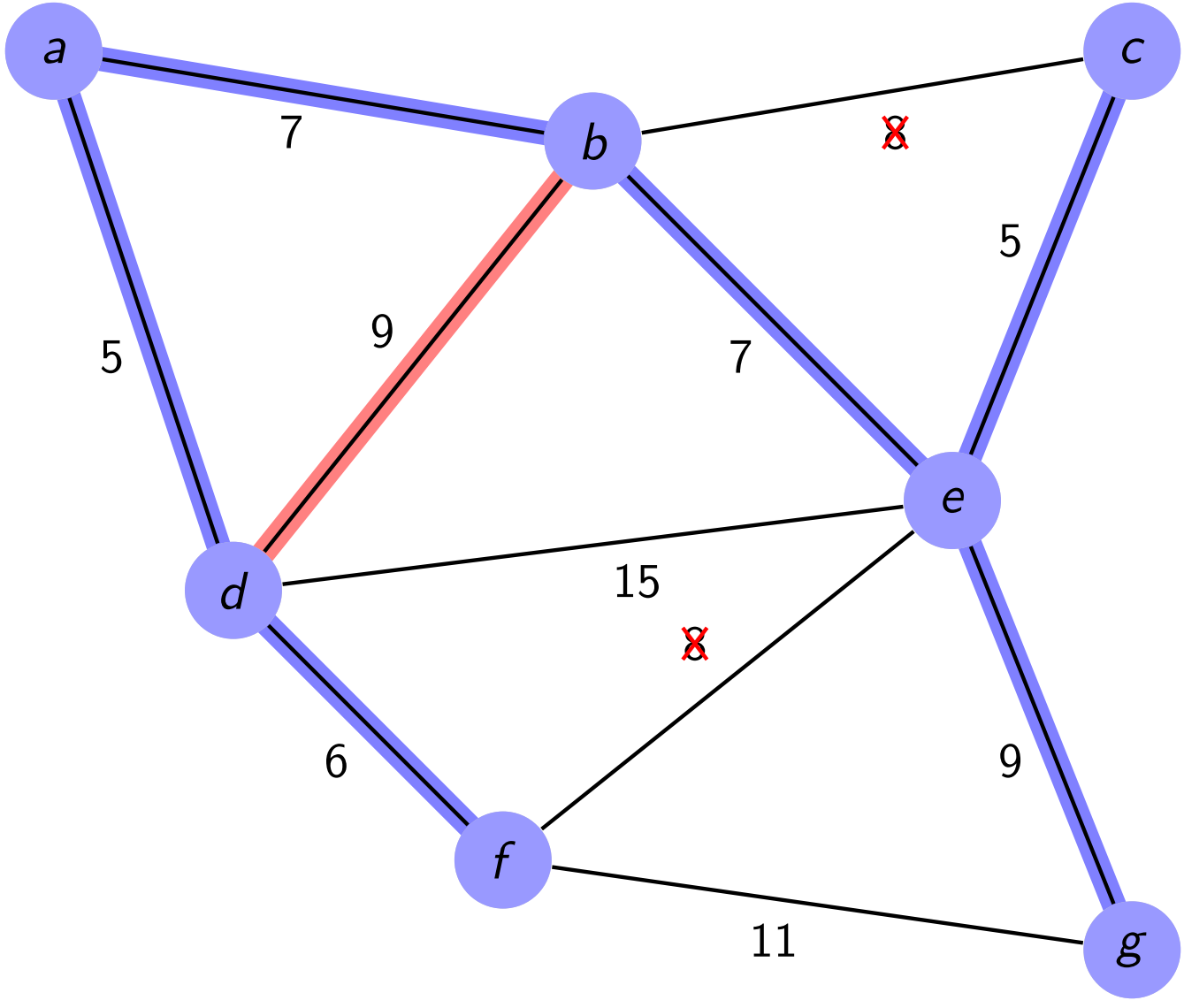

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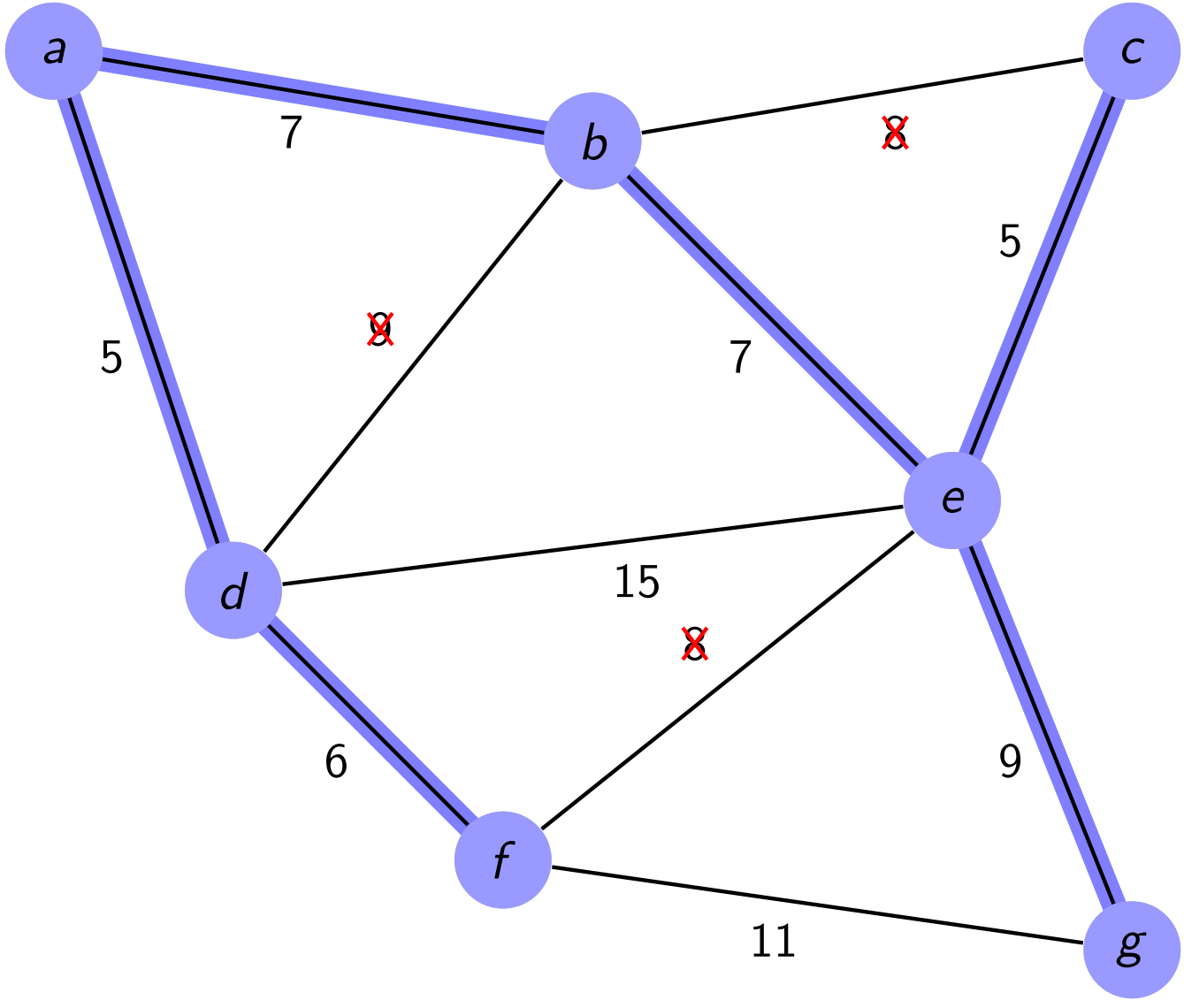

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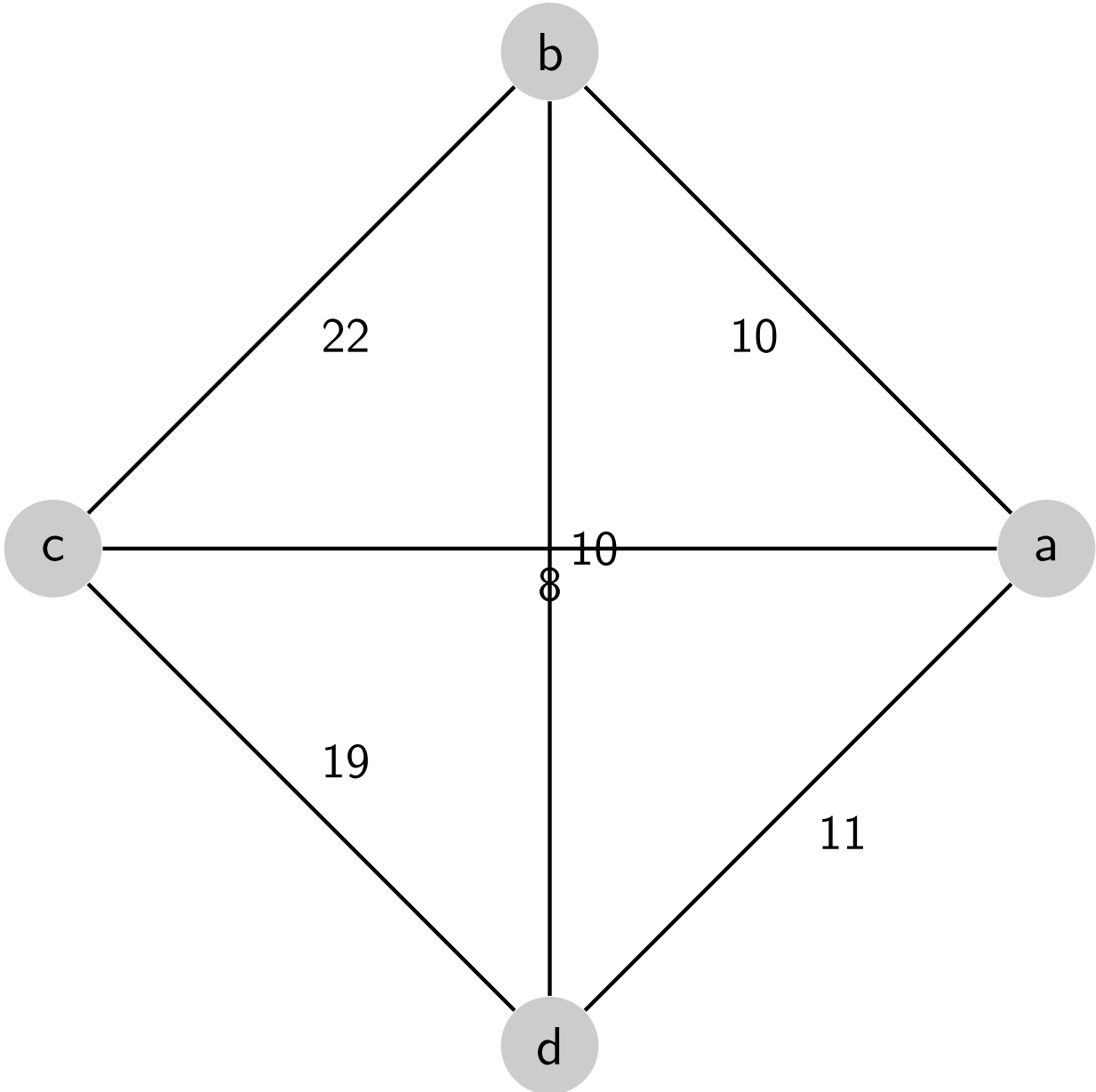

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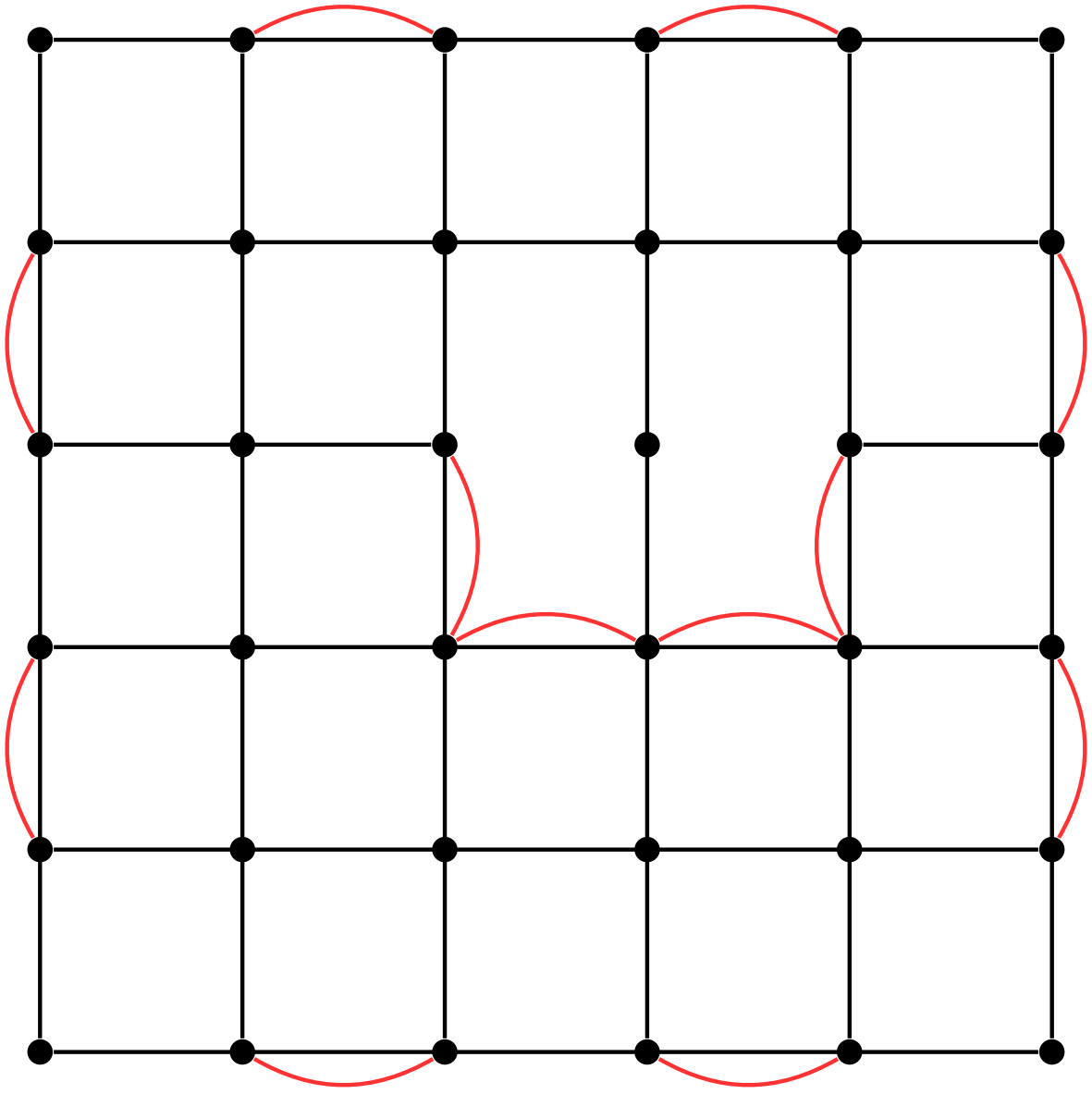
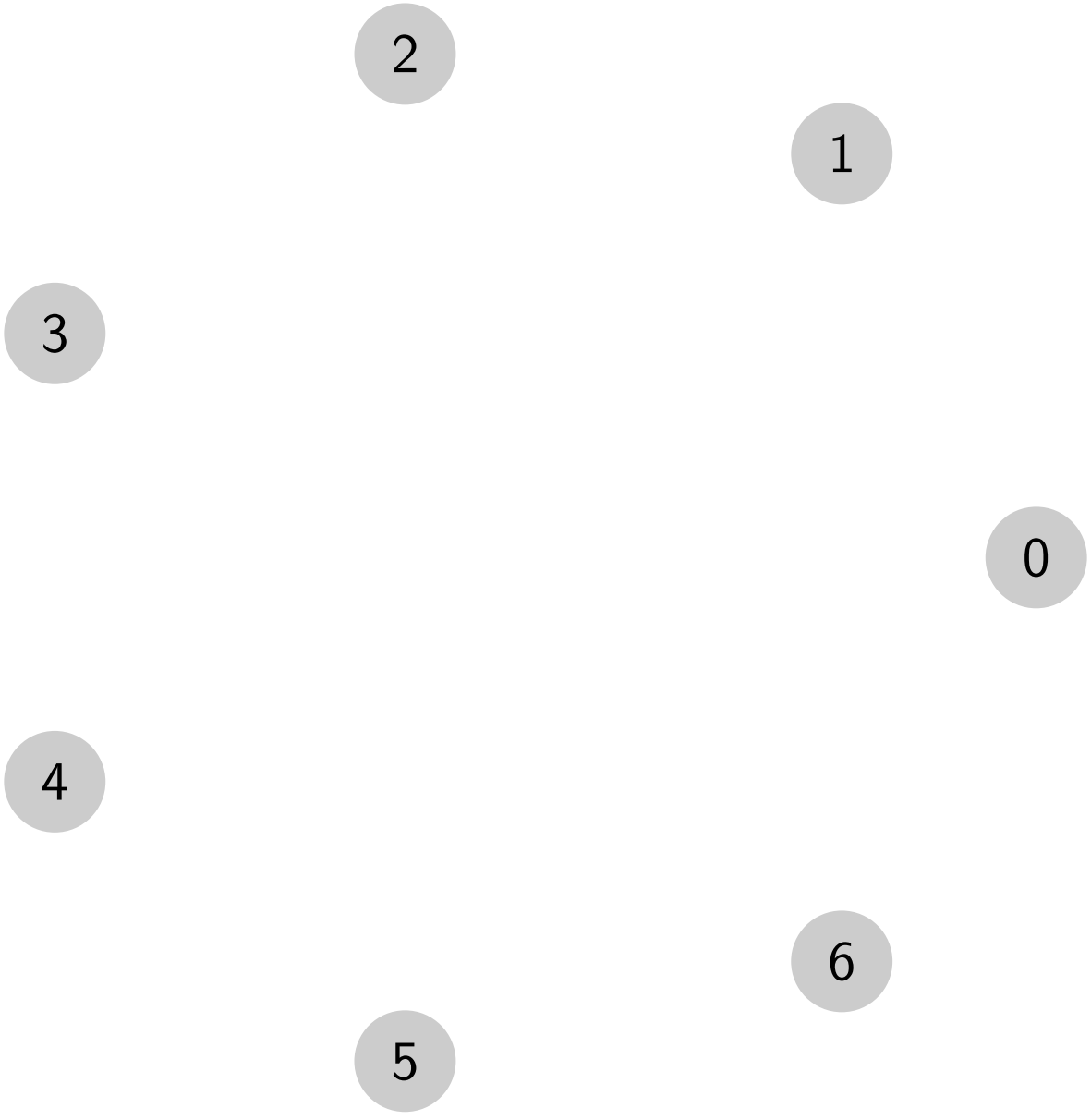


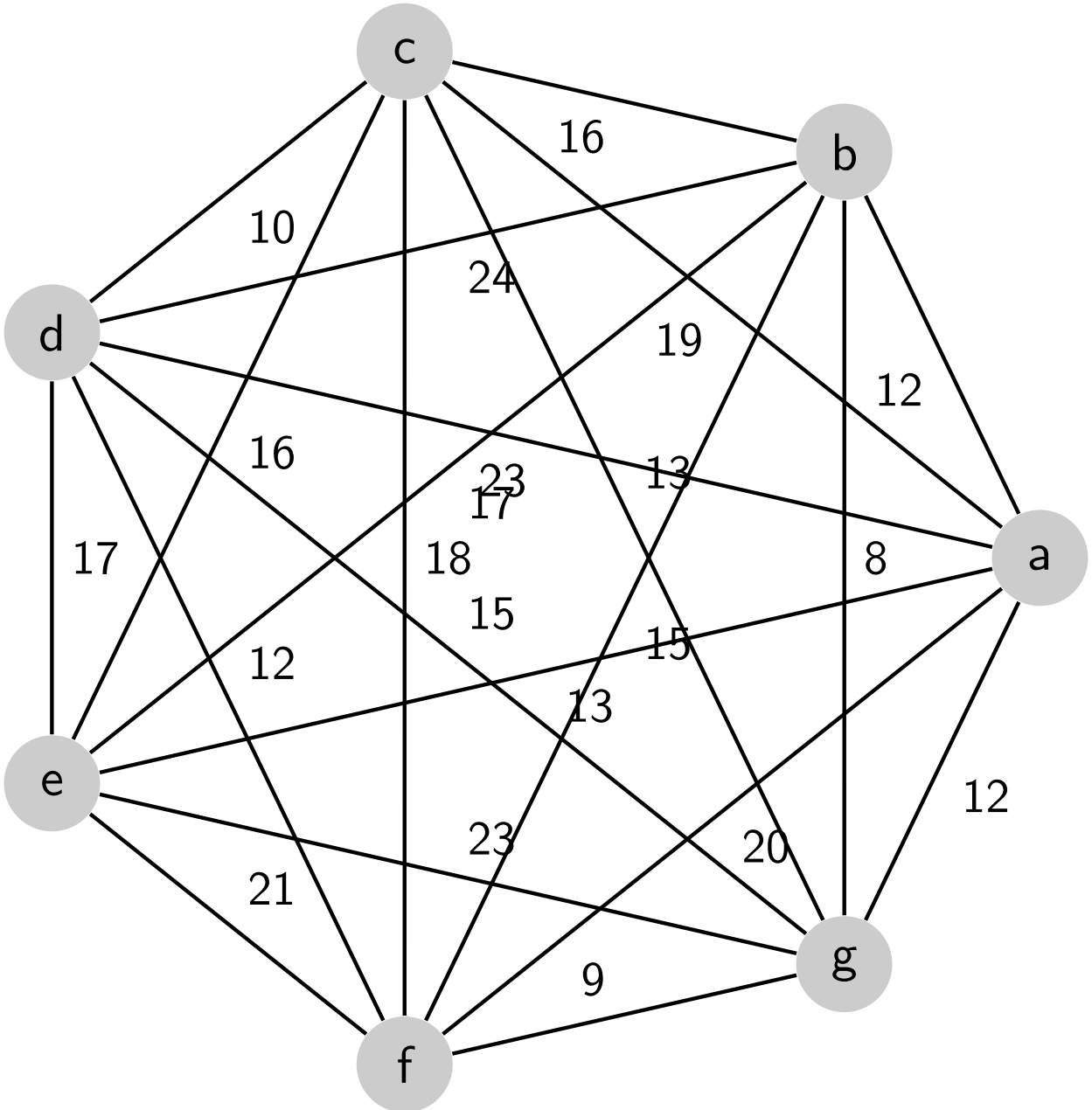
Hamiltonian Circuits



Experiment

a,b,c,d,e

c

abde

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