

- MATH 101 - GRAPH THEORY

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SIUC Math Dept.

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OUTLINE

GRAPH THEORY

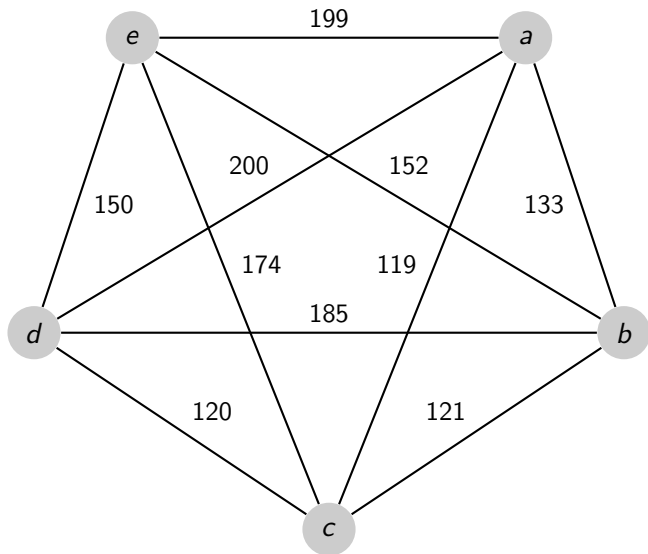
- NN + SE Algorithms

- Kruskal's Algorithm

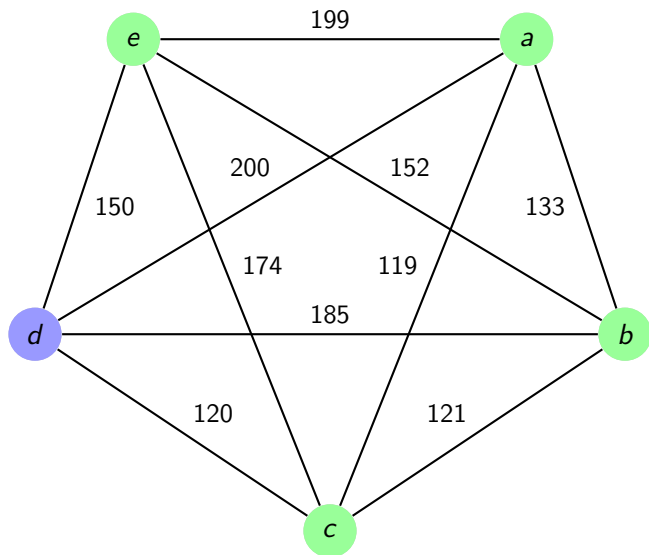
- Eulerian Circuits

- Hamiltonian Graphs

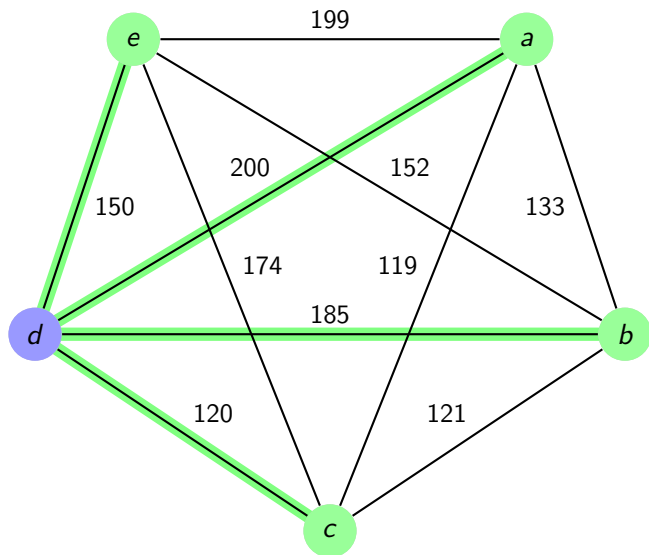
HAMILTONIAN CIRCUIT ALGORITHMS



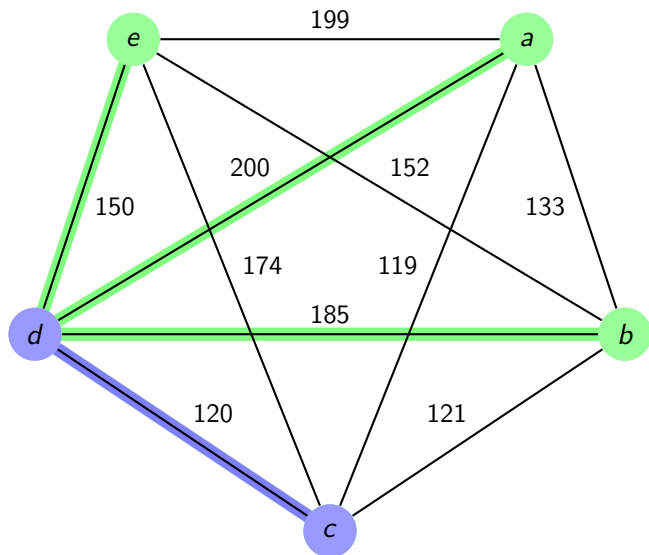
NEAREST NEIGHBOR ALGORITHM (STARTING AT VERTEX *d*)



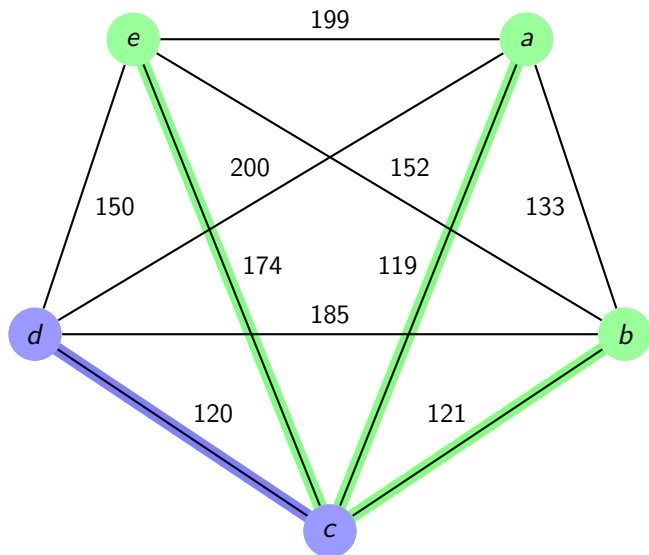
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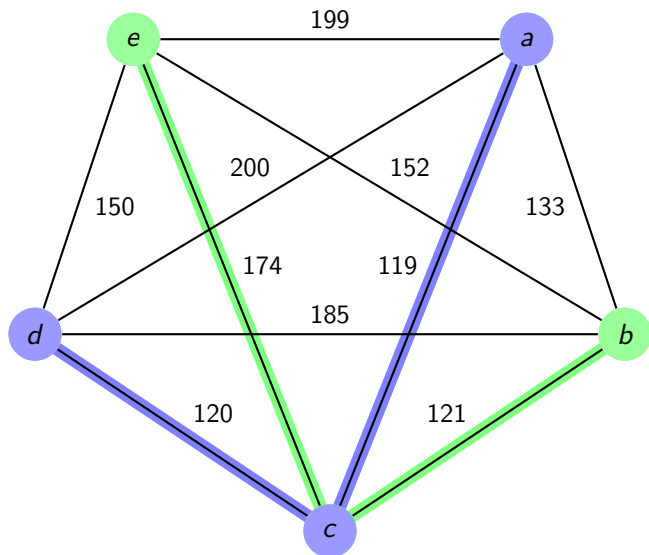
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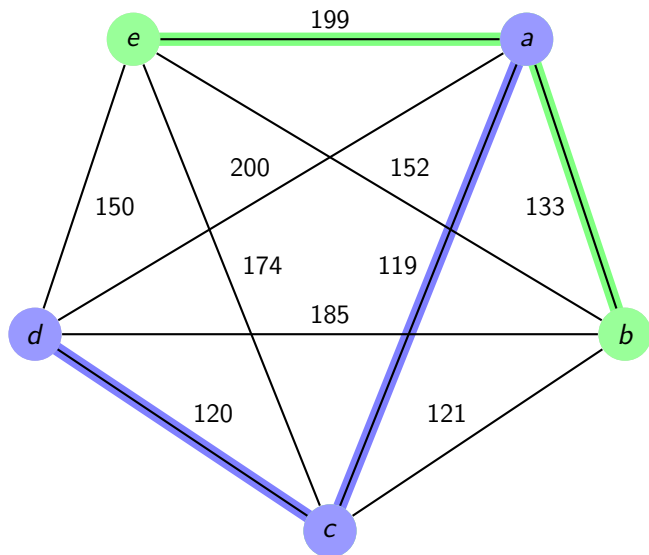
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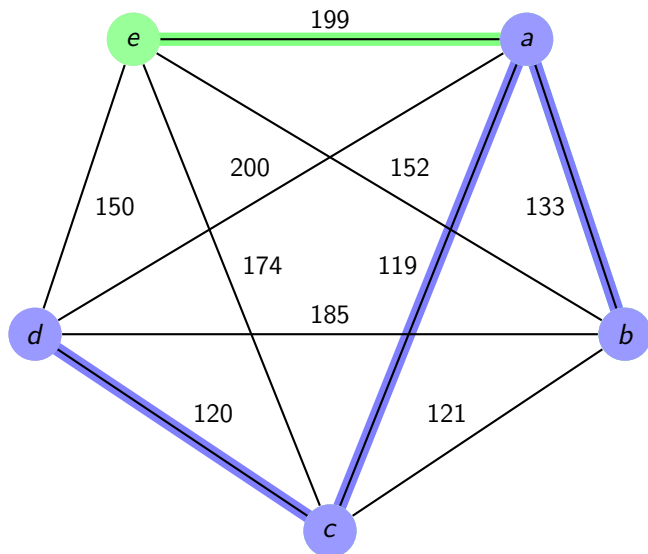
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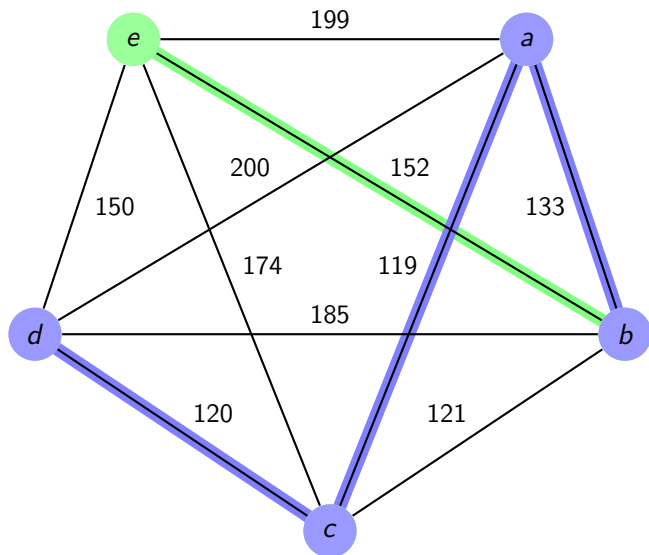
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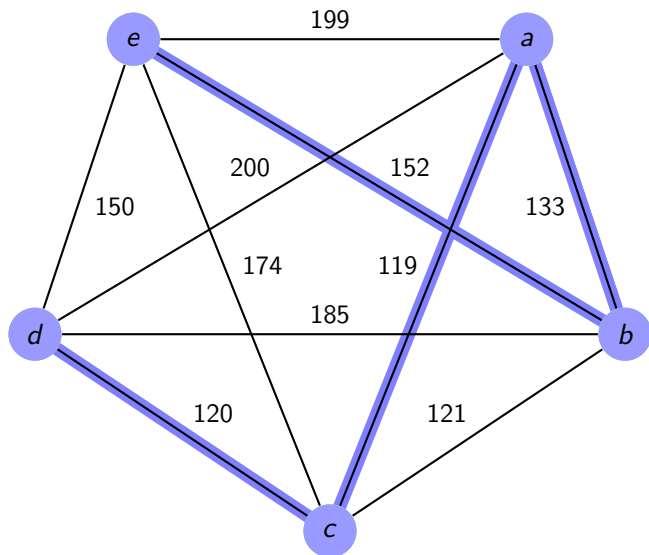
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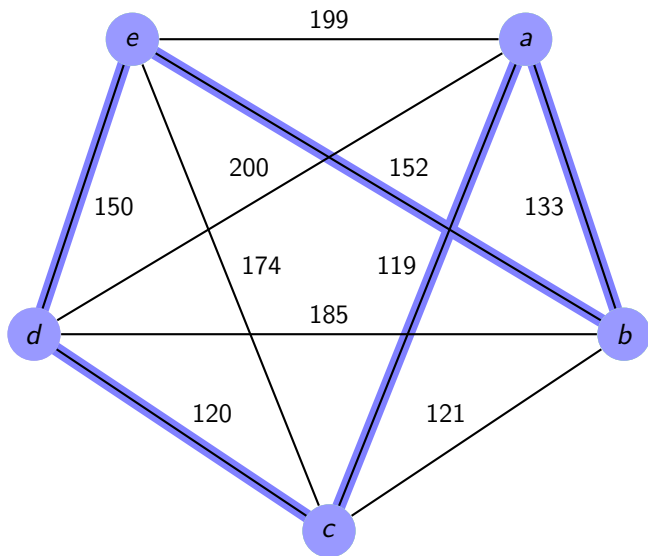
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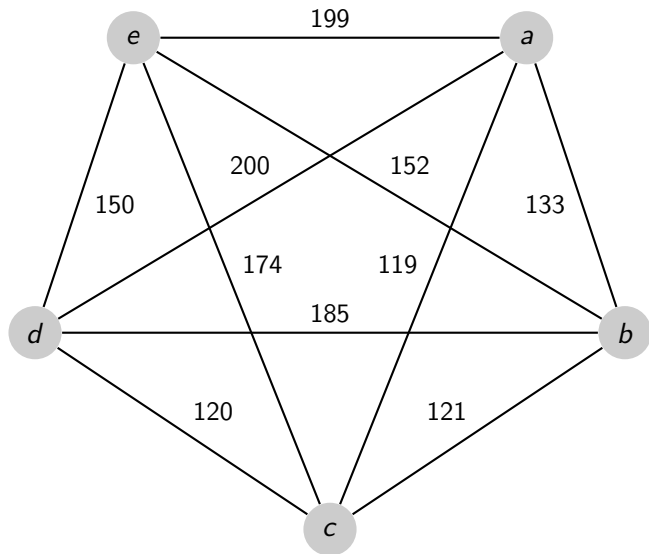
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SORTED EDGES (CHEAPEST LINK) ALGORITHM



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The weights of the edges are:

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

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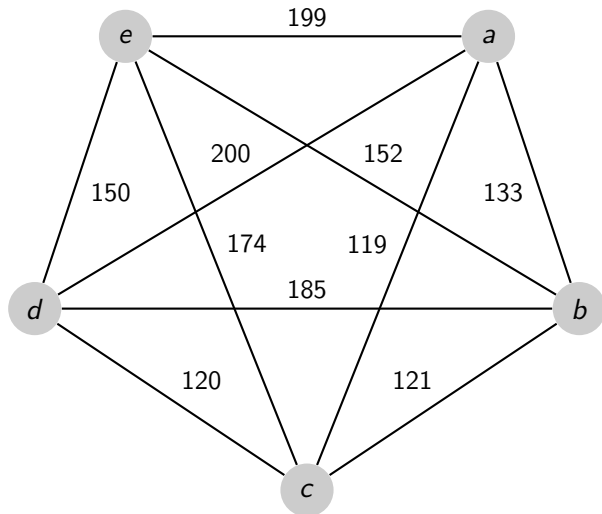
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Now we can proceed to construct a Hamiltonian circuit using the Cheapest Link Algorithm.

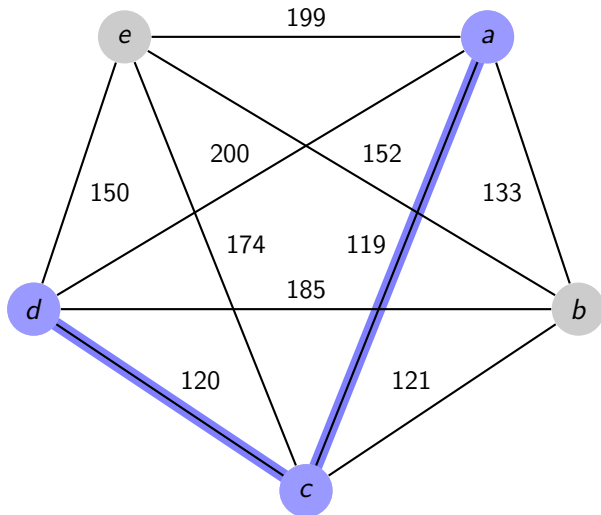
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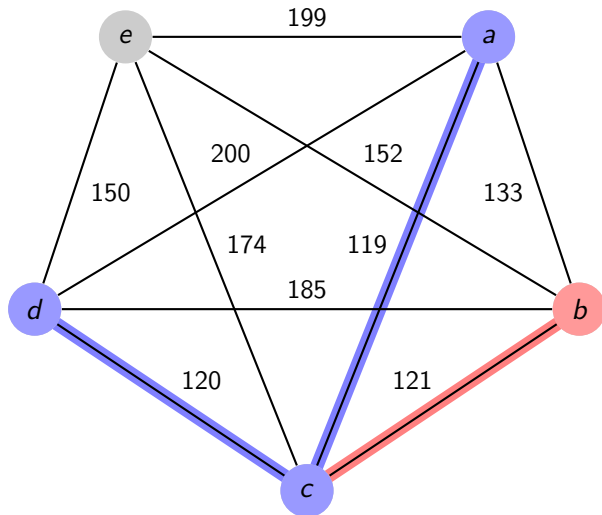
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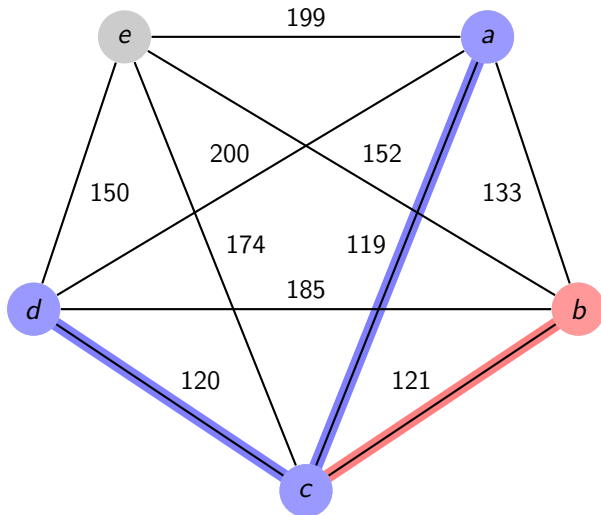
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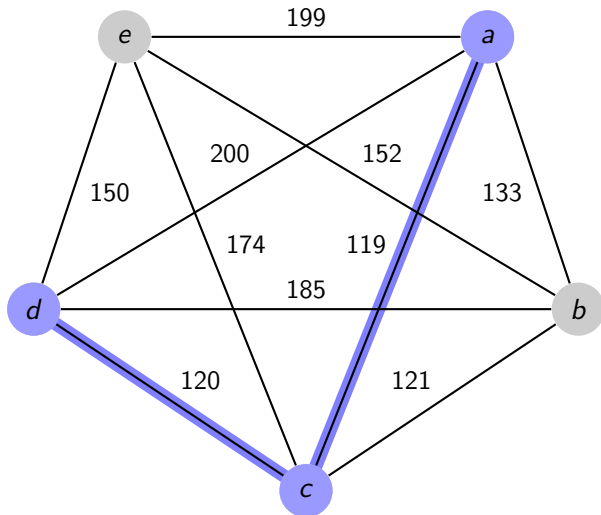
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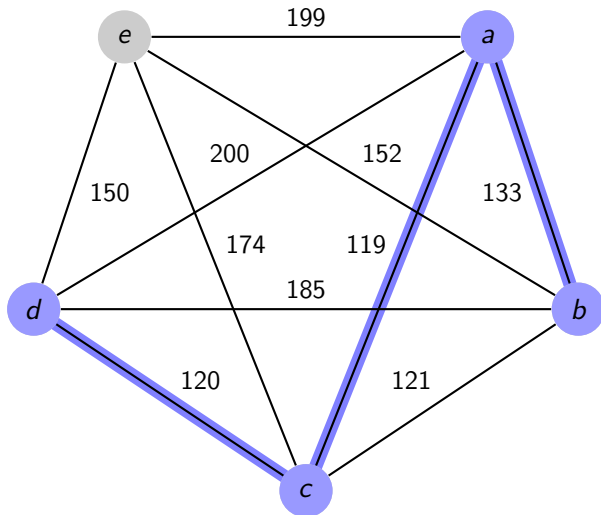
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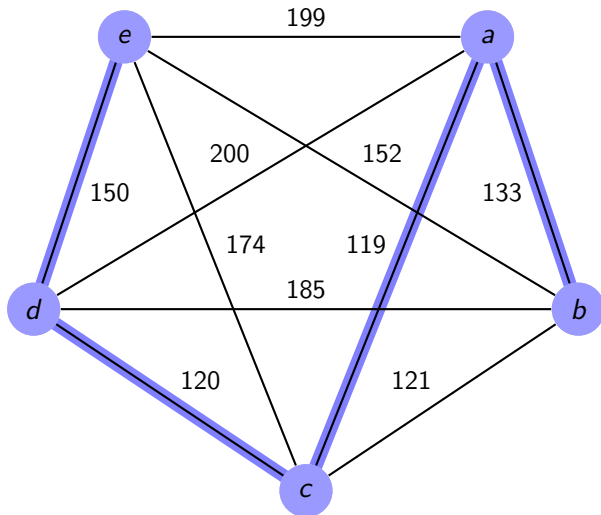
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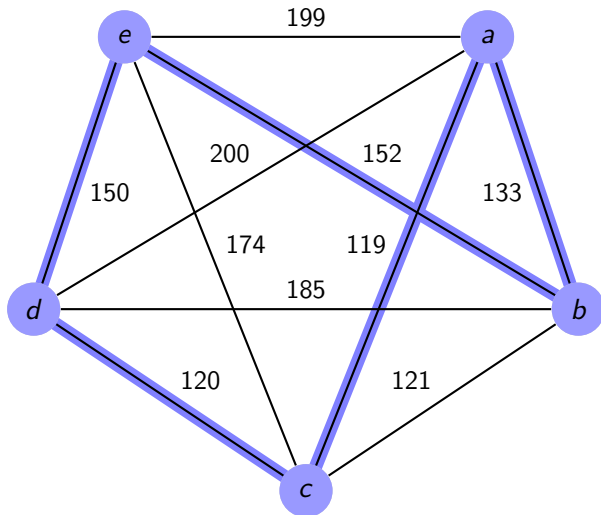
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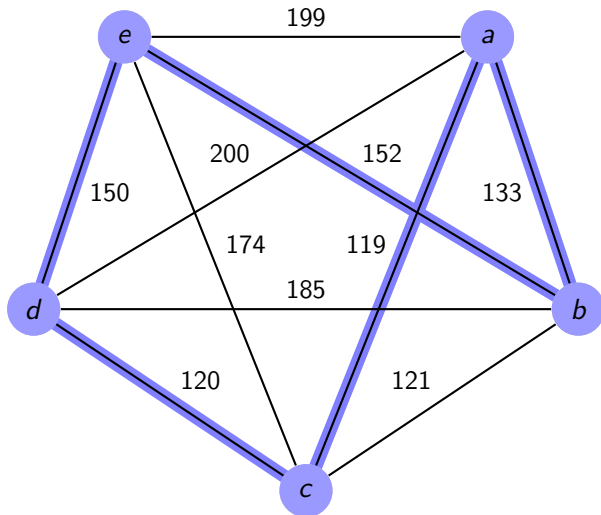
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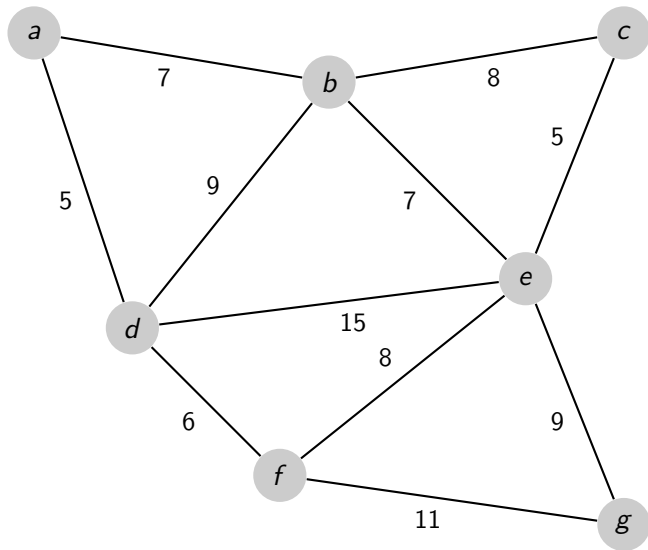


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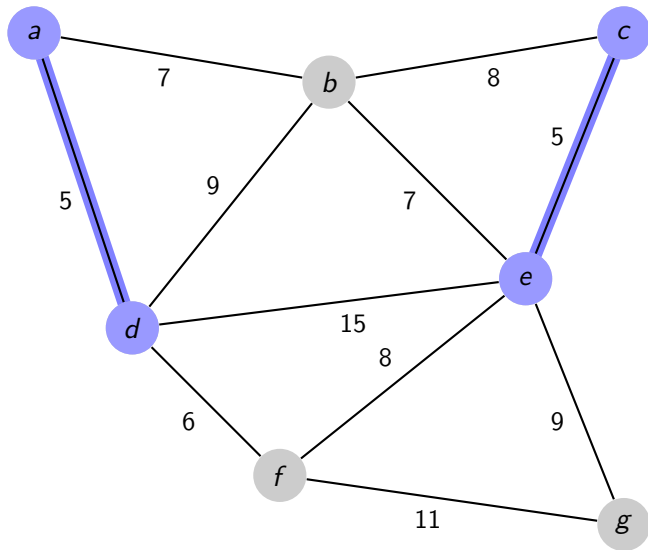
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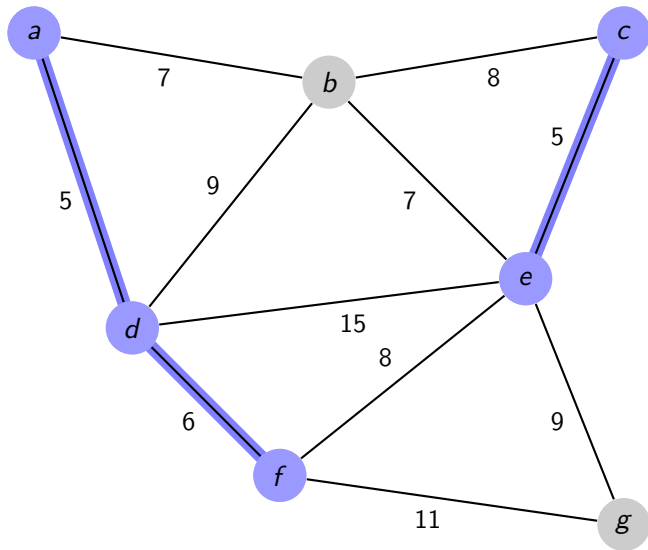
KRUSKAL'S ALGORITHM



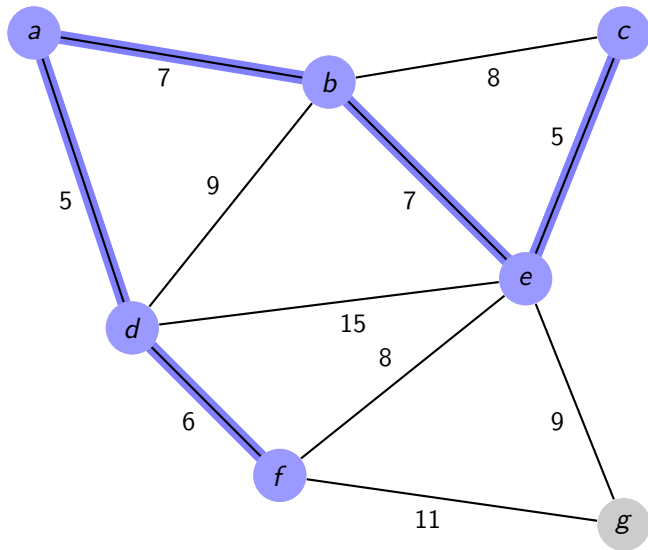
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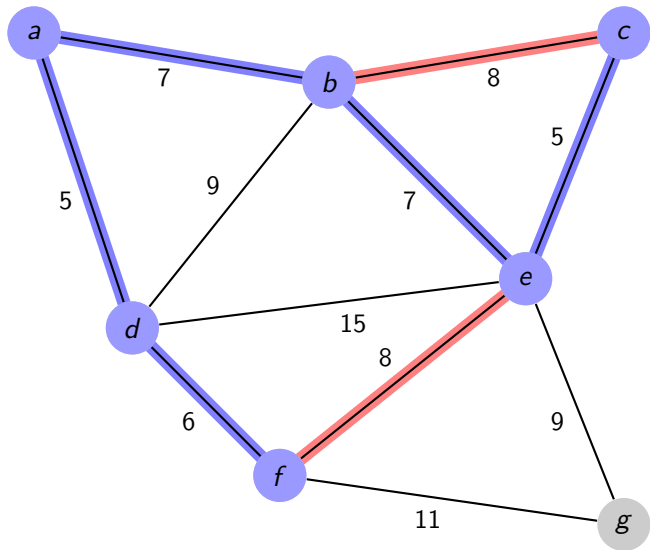
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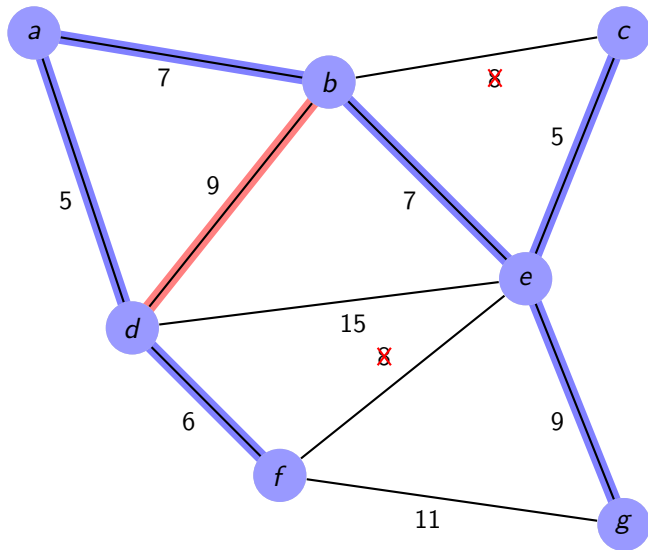
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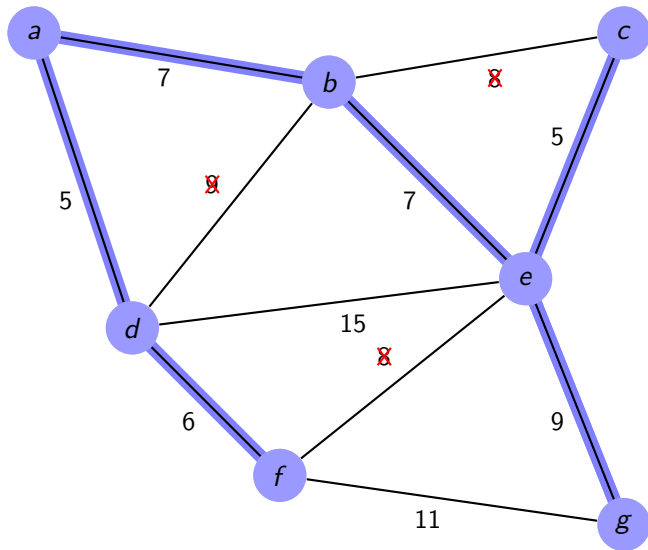
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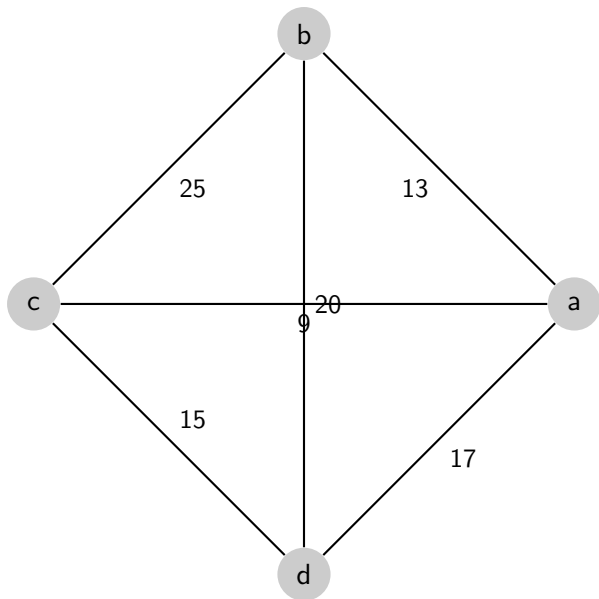
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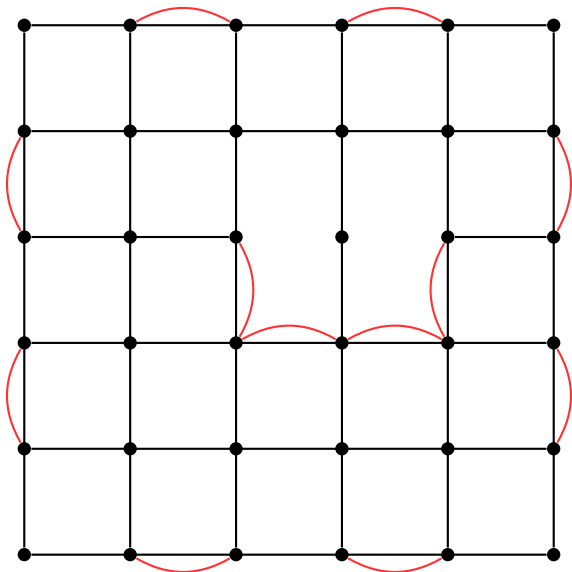
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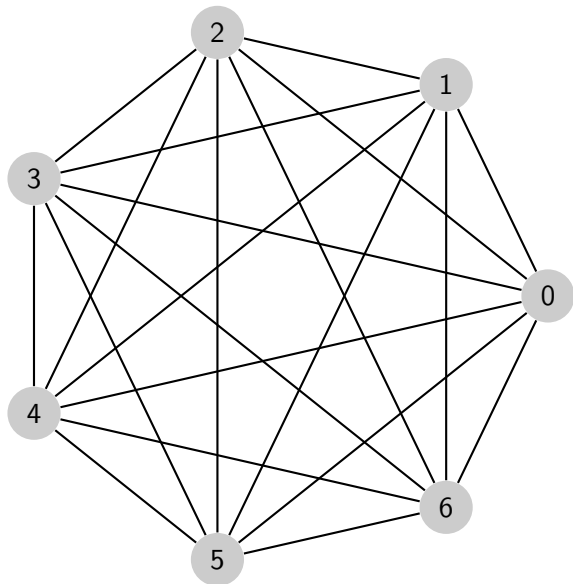
EULERIZATION



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HAMILTONIAN CIRCUITS



EXPERIMENT

a,b,c,d,e

c

abde

EXPERIMENT

