Coping with NP-completeness | Coursera

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Coping with NP-completeness

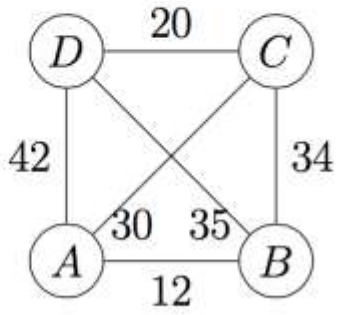
Graded Quiz • 6 min

Due Jul 13, 12:29 PM IST

LATEST SUBMISSION GRADE

100%

1. What is the weight of a minimum traveling salesman cycle in the following graph? **1 / 1 point**



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2. Recall that the dynamic programming algorithm for the traveling salesman problem uses $O(n^2 \cdot 2^n)$ time and $O(n \cdot 2^n)$ space (as usual, n is the number of vertices). You are going to run this algorithm on a graph with 50 vertices. Roughly how much space is needed for this assuming that each cell of the dynamic programming table occupies 8 bytes? (See How much is 1 megabyte, gigabyte, etc?) **1 / 1 point**

- ○ Kilobyte
- ○ Megabyte
- ○ Gigabyte
- ○ Terabyte
- ○ Petabyte
- ◉ Exabyte
- ○ Zettabyte
- ○ Yottabyte

✓ **Correct**

That's right! For this, we need about $8 \cdot 50 \cdot 2^{50}$ or $0.5 \cdot 2^{60}$ bytes

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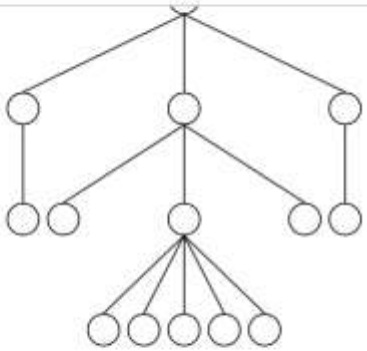

10

Correct

That's right!