Coping with NP-completeness
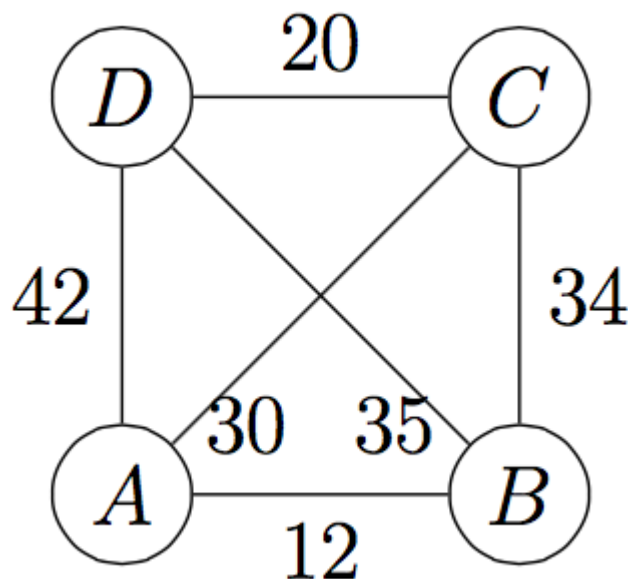
3/3 points (100%)

Quiz, 3 questions

✔ **Congratulations! You passed!**

| Next Item |

✔   1 / 1
points

1.

What is the weight of a minimum traveling salesman cycle in the following graph?

| 97 |

Correct Response
That's right!

✔ 1 / 1
     points

Coping with NP-completeness

3/3 points (100%)

Quiz, 3 questions

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?)

○ Kilobyte

○ Megabyte

○ Gigabyte

○ Terabyte

○ Petabyte

◉ Exabyte

Correct

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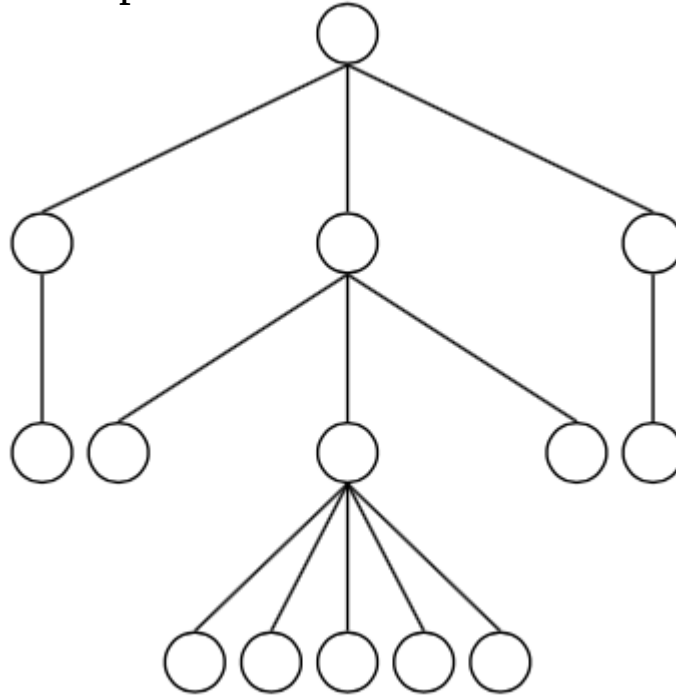
○ Zettabyte

○ Yottabyte

✔ 1 / 1
     points

3. What is the maximum size of an independent set in the following tree?

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3/3 points (100%)

Quiz, 3 questions


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10
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Correct Response
That's right!