Practice Questions: Bruteforce and Backtracking to solve NP-Complete Problems

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What have you learnt so far ?

3/3 points (ungraded)

1. A bruteforce algorithm is (2 correct answers)

- [x] an algorithm that finds solutions by testing all possibilities exhaustively.
- [x] guaranteed to find exact solutions.
- [ ] an algorithm that finds the least complex solution without checking if it is correct.

✔

2. A backtracking algorithm for the TSP... (check all that apply)

- [x] iteratively examines the lengths of routes and immediately aborts examination of a route that is longer than the shortest found so far.
- [x] is guaranteed to find the shortest route.
- [ ] randomly explores only a subset of all routes and outputs the shortest route of the subset, but is not guaranteed to find the shortest route among all possible ones.

✔

3. We consider using a backtracking algorithm for the TSP. Which of the following are true? (2 correct answers)

- [x] The complexity of backtracking may be linear for some graphs.
- [x] The order in which vertices are explored has an important influence on overall execution time.
- [ ] Backtracking is based on a BFS.

✔

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Answers are displayed within the problem

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