QQ4

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0 points possible (ungraded)

Which of the following statements are true concerning the Traveling Salesman Problem? (You may check more than one choice)

- [ ] a) The solution will always be different depending on the start node
- [x] b) The nearest neighbor heuristic is very fast, but not guaranteed to provide an optimal tour ✔
- [x] c) The nearest neighbor heuristic is a construction algorithm. ✔
- [ ] d) The nearest neighbor heuristic is an improvement algorithm.
- [x] e) If N is the number of nodes in the network, then there will be N arcs in the tour ✔

✔

Explanation

The correct answers are b, c, e..
a) False. It may be different, but it will not necessarily be different.
b) True. This is pretty much the definition of a heuristic!
c) True. The heuristic creates or builds a tour, so it is a construction algorithm
d) False. Since this is the opposite of (c)!
e) True. Simply looking at a tour should convince you of this - since every node is visted once and only once.

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Answers are displayed within the problem

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- Part a) How could 2 different starting points yield same paths? — 4
  If I'm reading the question correctly, we are asking if each unique starting point will have an optimized tr...
- Part e) If there are N nodes, won't there N-1 arcs? — 3
  Do we consider starting and ending points to be nodes with set N? If so, shouldn't there be N-1 arcs for ...