Traveling Salesman Problem

Read the book chapters first, then make sure you can answer the questions in the notes. Following that, work on some skills-check problems and exercises. Then take the online quizzes.

Reading 2.2, 2.3
Skills Check 3, 4, 6, 8, 10, 15
Exercises 39, 40, 43, 44, 46, 48, 50, 51, 52
Quiz (Not ready) Take the quiz[1]

This day's reading assignment also includes a file on minimum-cost spanning trees. Don't miss it.

Notes

2.2

- What is the *Traveling Salesman Problem*? What kinds of graphs does it refer to?
- Think of some personal experience situations that you might represent as traveling salesman problems.
- What are some of the things that might be represented by "cost" in a TSP?

2.3

- Describe how the *Nearest-Neighbor Algorithm* works for the TSP.
- Demonstrate what results the Nearest-Neighbor Algorithm produces in some concrete examples.
- the NNA is an example of a *greedy algorithm*. Explain what this term refers to.
- Does NNA always produce the optimal route?
- Does the starting vertex matter for the NNA? Or do we always end up with the same circuit?
- Describe the *Sorted-Edges Algorithm* for the TSP.
- Demonstrate what results the Sorted-Edges Algorithm produces in some concrete examples.
- Does the Sorted-Edges Algorithm always produce the optimal route?

[1] https://moodle.hanover.edu/mod/quiz/view.php?id=