CS 401 Homework 2

State all necessary assumptions clearly.
Please write legibly or type and print your answers.
Submit via Gradescope.

1. Chapter 3, Exercise 5

2. Chapter 3, Exercise 7

3. Chapter 3, Exercise 10

4. Provide a counter-example to show that the "earliest finish time first" leads to a non-optimal solution for the "Scheduling All Intervals" problem (pages 122-125).

5. Chapter 4, Exercise 9

6. Chapter 4, Exercise 13

7. Chapter 4, Exercise 17

8. Dijkstra's single-source shortest paths algorithm is similar to Prim's minimum spanning tree algorithm in many ways. Write the pseudo-codes of the two algorithms (to be as similar as possible) and then describe the main differences between the two algorithms' pseudo-codes.