Spring 2018, CS 401 Homework 2

State all necessary assumptions clearly. Please staple if using multiple sheets of paper. Please write legibly or type and print your answers.

Due date: March 2, 2018, 12:00 noon, hard-copy submission in class.

1. Problem 3.5

2. Problem 3.7

3. Problem 3.10

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. Problem 4.9

6. Problem 4.13

7. Problem 4.17

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.