

# CS314: Algorithms

## Homework 3, due Monday, Feb. 23

This homework will be submitted in written format at the beginning of class. You are welcome to work with a partner (or two, if the class size makes that necessary, but please check with the instructor to get permission).

As always, when asked to design an algorithm, you must also include a proof of correctness and running time for that algorithm. In particular, if the problems asks you to design an algorithm with a particular run time, you must still analyze *your* algorithm to prove that it meets that running time.

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### Required Problems

1. Chapter 4, Problem 3

Hint: Formalize your proof by using induction on the number of trucks.

2. Chapter 4, Problem 5

3. Chapter 4, Problem 7

4. Chapter 4, Problem 13