CSE 3500: Problem Set 6
Due by 11:59 PM on Friday, December 8.

Please note:

- *Students are permitted to discuss general concepts and questions concerning the homework assignments, but sharing written solutions with others or using solutions provided by others, in part or in whole, is prohibited.*
- *Whenever a question asks you to give an algorithm for a problem, be sure to also prove its correctness and analyze its time complexity.*
- *If you consult an outside resource (e.g., web page, book, or research paper) to arrive at your solution, be sure to cite that resource.*

Suggested reading: Chapter 8 from textbook.

Homework questions:

Question 1. (10 points) Suppose someone gives you a polynomial time algorithm for deciding the 3-SAT problem (yes/no answer to whether there exists a satisfying assignment for the 3-CNF expression). Show how to use this algorithm to compute a satisfying assignment in polynomial time.

Question 2. (10 points) Exercise 22 from Chapter 8, page 517 of the textbook.

Question 3. (10 points) Exercise 5, Chapter 8, p. 506. (For the reduction, you should use one of the problems we have already shown to be NP-complete in class.)

Question 4. (10 points) (10 points for answering (no right or wrong answers!))

(a) Which topics did you enjoy learning about the most and why?

(b) Name one or more topic(s) that you found easy to understand.

(c) Name one or more topic(s) that you found difficult to understand.