CS 4810 Homework Assignment 12 due Monday class Nov 20.

We will grade your homework on clarity and quality of writing.

1. Give a polynomial time algorithm for determining if a 2-CNF formula is satisfiable.

2. Assume there is a polynomial time reduction of a problem P_1 to P_2.

   (a) What can you say about P_2 if P_1 is NP-complete?

   (b) What can you say about P_2 if P_1 is not a recursive set?

   (c) What can you say about P_1 if P_2 is NP-complete?

   (d) In general what is the relationship of P_1 and P_2?

3. Prove that the clique problem is NP-complete.

4. Prove that NP is contained in PSPACE.

5. Prove that NPSPACE=PSPACE.