Homework 5–CSC 320 Summer 2015
Due In Class July 31 11:20AM

1. Let L be a language in P. Prove it is reducible to any language in NP which contains at least one string and doesn't contain all the strings.

   For the next two problems, prove that the problem is NP-complete. Use a problem known to be NP-complete which has been discussed in the class notes or in the homework.

2. **3SAT-2ta**
   INPUT: A Boolean formula in CNF with exactly 3 literals per clause
   OUTPUT: Yes if there are at least two satisfying truth assignments.

3. **SHOPPING BAG**
   INPUT: Set of m items and their weights in grams, two numbers B and T
   OUTPUT: Can we put the m items into T bags, if each bag hold up to B grams?