COMP 280 : Assignment 8
due: Tuesday, March 28, 2000

Write the following programs in Prolog. Turn in a printout of your programs and your test cases. Be sure to test them before turning them in. Write your programs as declaratively as possible (e.g., don’t use the if-then-else construct more than necessary) – this is a new style of programming and the goal is for you to become comfortable with it.

1. (2 pts) member(Element,List) iff Element is a member of the list List. Use your program to produce all members of a list that are greater than some integer.

2. (2 pts) putLast(Element,OldList,NewList) iff NewList consists of the elements of OldList followed by Element. (i.e., putLast(2,[1,3],[1,3,2]) is true).

3. (2 pts) consecutive(X,Y,L) iff X and Y are consecutive elements of list L.

4. (3 pts) palindrome(L) iff the list L is a palindrome, i.e., reads the same backwards and forwards.

5. (3 pts) rotate(L,N,R) if R is the result of rotating the list L by N steps to the right. (e.g., rotate([a,b,c,d,2],2,[d,e,a,b,c]) is true).

6. (4 pts) permutation(L1,L2) iff list L2 is a permutation of list L1. (You should be able to use your program to generate all permutations.)