More Practice Problems for the Final

1. Review all problems from Midterms 1 and 2.
2. Write a Prolog program all\_different(L) which is true if L is a list of unique items ( i.e, it has no duplicates) and false otherwise.
3. Write a Prolog program subset1(A,B) which is true if A is a subset of B, that is if all elements of A are elements of B. Assume that A and B are lists.

For example, subset1([ 7, 9 ,3], [ 3, 7 ,4,6,9,2]) is true because 7, 9 and 3 are members of the second list.

1. Write a Prolog program subsequence(A,B) which is true if A and B are lists and the list A is a subsequence of the list B. For example subsequence([2,4,6] , [ 10,7,2,5, 2, 12,4,8,9,6]). is true while subsequence( [ t,r,y] [ q,w,e, r,t,y]) is false. Assume that A and B are lists.
2. Test the solutions to Problems 2,3,4 on SWI Prolog.
   1. What are all of the solutions returned by ?- subset1(X, [a,b,c]). Explain.
   2. What are all of the solutions returned by ?- subsequence(X,[2,4,6]). Explain.
   3. What are all of the solutions returned by

?- member(X,[a,b,c,d]), member(Y,[a,b,c]), L = [X,Y], all\_different(L). Explain.