Problem 1
Solve Exercise 11.1 b, c, d, e in Sethi, p.470.

Problem 2
member(A, [A | B]).
member(A, [B | C]) :- member(A, C).

Give Prolog Search Trees (book version) for the following queries:

- `| ?- member(X, [a,b,c]).`
  
  `X = a ;`
  
  `X = b ;`
  
  `X = c ;`
  
  `no`

- `| ?- member(a, [b,c,X]).`
  
  `X = a ;`
  
  `no`

- `| ?- member(a, [1,2]).`
  
  `no`

Problem 3
Write Prolog programs for the following operations on lists of constants:

1. `rm1(X,Y) - Remove the second and succeeding adjacent duplicates.`
   Example:
   `rm1([a, b, a, a, b, c, c], Z).`
   `Z = [a, b, a, b, c]`

2. `rm2(X,Y) - Leave only the elements that do not have an adjacent duplicate.`
   Example:
   `rm2([a, b, a, a, b, c, c], Z).`
   `Z = [a, b, b]`

3. `rm3(X,Y) - Leave only one copy of the elements that have adjacent duplicates.`
   Example:
   `rm3([a, b, a, a, b, c, c], Z).`
   `Z = [a, c]`