Prolog Problem Sheet #1

1. Write a program that increments the elements of a list
Sample goal: increment ([1,5,7,2] , L).
L=[2,6,8,3]

2. implement insertion into a sorted list (the result is sorted as well)
Sample goal: InsertSorted (5, [1,3,6,7,10,45] , L)
L=[1,3,5,6,7,10,45]

3. implement list difference.
Sample goal: difference ([a,b,c,d,e,f,g,h] , [a,g,h], L).
L=[b,c,d,e,f]

4. Write a program that counts the number of vowels in a list.
Sample goal: num_vowels ([o,r,a,n,g,e] , Num).
Num=3

5. Extract a slice from a list.
Given two indices, I and K, the slice is the list containing the elements between the I'th and K'th element of the original list (both limits included). Start counting the elements with 1.

Sample goal: slice([a,b,c,d,e,f,g,h,i,k],3,7,L).
L = [c,d,e,f,g]