1. Implement the member and append predicates as covered in lectures and reference material. Make sure they behave as expected.

2. Write a predicate myinsert that inserts an element at position P in a list. For example:

   \[
   \text{?- myinsert(a,0,[b,c],L).} \\
   \text{will result in:} \\
   \text{L = [a,b,c].} \\
   \text{also:} \\
   \text{?- myinsert(a,4,[a,b,c,d,e,f],L).} \\
   \text{will result in:} \\
   \text{L = [a,b,c,d,a,e,f].}
   \]

3. Write a predicate mydelete that deletes an element in position P from a given list and returns the new list. For example:

   \[
   \text{?- mydelete(0,[a,b,c],L).} \\
   \text{will result in:} \\
   \text{L = [b,c].} \\
   \text{also:} \\
   \text{?- mydelete(4,[a,b,c,d,e,f],L).} \\
   \text{will result in:} \\
   \text{L = [a,b,c,d,e,f].}
   \]

4. Count the number of atoms (constants) in a list. Note that the list may be nested. For example:

   \[
   \text{?- count_list([[a,b],[c],[d,[e,f],[g]],h], Number).} \\
   \text{will result in:} \\
   \text{Number = 8.}
   \]

   (Make use of the inbuilt predicate: atom(X), which returns true when X is a constant)

Submit Question 3 at the end of the semester
(Please note that tutor will not give you the answers for this question)