Consider the following Lisp function:

\[
\text{(label member (lambda (x lat))}
\begin{align*}
&\quad \text{(cond} \\
&\quad \quad \text{((null. lat) '()}) \\
&\quad \quad \text{((eq x (car lat)) 't}) \\
&\quad \quad \text{'t (member x (cdr lat))))})
\end{align*}
\]

1. What is \text{(member 'foo '())}? Answer: ()

2. What is \text{(member 'foo '(foo bar))}? Answer: t

3. What is \text{(member 'foo '(bar foo goo))}? Answer: t

4. In your words, what does \text{member} do? (Hint: “lat” stands for “list of atoms.”) Answer: It returns \text{t} if its first argument (an atom) is a member of its second argument (a list of atoms). It returns () otherwise. Therefore, it implements a test for membership in a list of atoms.