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1. Give a brief description of the following functions: lat?, cons, null?, atom?

lat? is going to recursively check to see if the entirity of the list is of the form atom. If it reaches the end and returns null, it's true, else it's false.
cons is going to construct a list where the first object is a list or atom and the second must be a list.
null? checks to see if the list is the empty set or if it has objects in it.
atom? checks to see if the object is an atom.

2. Use the functions eq?, car, and cdr in a scheme that evaluates to true, #t

(eq? (car l)(car (cdr l))) where l is (Henry Henry jumps over the pond).

3. What do the terms Lambda, cond, and define mean in a function definition?

define is a the name of the function.
Lambda creates the function itself.
cond lays the parameters and the behavior of the function by asking questions.

4. What is the first question you should ask when expressing any function?

The first quiestion you should ask when expressing any function is null? to define whether the list is empty.

5. What are the laws of car, cdr, cons, null? and eq?? Give a brief description.

car is only defined for non empty lists and will return the first object.
cdr is only defined for non empty lists and will return everything after the first element as a list.
cons will construct a list with 2 arguements. The first being an object (atom or list) and the second being a list.
null? is only defined for lists and will return whether or not the list is empty.
eq? is only defined for non numeric atoms and compares them with each other.

Thank you! See you on Tuesday.