100

Homework 5

Meghan O'Loughlin

1. even(0).
   even(s(s(x))) ← even(x).
   odd(s(0)).
   odd(s(s(x))) ← odd(x).

* if 0 is even then 2 ahead is even
* if 1 is odd then 2 ahead is odd

2. integer_quo(X, Y, Z) means X/Y = Z
   greater_than(X, Y) means X > Y

   integer_quo(X, Y, ∅) ← greater_than(Y, X).
   integer_quo(X, Y, s(Z)) ← plus(Y, A, Z), (subtraction)
   integer_quo(A, Y, Z).

* base case of Y > X meaning it won't return an int

3. adjacent(X, Y, [X, Y | Zs]).
   adjacent(X, Y, [Z, Zs]) ← adjacent(X, Y, Zs).

* either in head together or in list *

   last(X, [X]).
   last(X, [Y | Ys]) ← last(X, Ys).

* all left in list

4. double([], []).
   double([X | Xs], [X, X | Ys]) ← double(Xs, Ys).

* end if they're empty
* recurse double without last X; X, X to find next matching elements