

## Topics/Examples

- $\neg X=Y$  and  $\neg a=b$ . (when you have uninstantiated variables the result is false -- major problem with HW3 (that could have been caught with testing) ).
- Most of you figured out that you can use parentheses.
- ; (semicolon) in a query or rule means logical **or** and since it has lower precedence than  $\neg$  and you can use it to create predicates with only one rule where more than one was previously required -- this is inadvisable since it's harder to read. Use separate rules for separate cases (base case, recursive case, etc.)
- $\neg$  is a little more handy than  $\neg$  when comparing two things, e.g. in  $X \neq Y$  vs.  $\neg X=Y$ , (but you need  $\neg$  to negate a predicate).

[reverse list](#) [LPN] (with accumulator... not so impressive speed-wise -- list operations and structures are highly optimized in Prolog. The main thing is that there are a fair number of Prolog patterns that we don't have time to cover). [source](#).

HW2... if you can do the rest you can do this ( a query is just the part after the predicate part of a rule).

HW3 ([COSI]) -- have other concise examples in link below [file](#) (remember, this started with image of solar system and we built the KB).

HW4 -- I elected to use a different example from the HWs... map coloring is straightforward, cryptarithmic has a straightforward pattern (the order is what matters -- generating and testing if the order is wrong can be very slow), and the logic problems you have to take one at a time. This one is from <https://www.brainbashers.com/showpuzzles.asp?puzzle=ZYOT> code([brainbash.pl](#))

HW5 -- Some basic list examples: [lists.pl](#)

Lists Example1: ([source](#))

Plan Example: (depth-first search (really iterative deepening w/ bplan) )  
([source](#))

[LPN] = Learn Prolog Now:

<http://www.learnprolognow.org/lpnpag.php?pagetype=html&pageid=lpn-htmlse25>

[COSI] = <https://cosidesk.wikispaces.com/sample+knowledge+bases> (one mistake in that was that they didn't say neptune orbits the sun)