

CSE 341, Winter 2014, Assignment 5

Prolog Warmup

Due: Wednesday February 11, 10:00pm

3 points total

Include appropriate unit tests for your top-level rule. You can use helper rules as needed.

You can use up to 2 late days for this assignment.

Turnin: Turn in two files named `prolog_warmup.pl` (with the rules themselves) and `prolog_warmup_tests.pl` (with the unit tests). The TAs should then be able to run the unit tests. There is a starter file for the unit tests linked from the assignments page.

Hint: if you don't want to deal with the unit tests right off, just write the `prolog_warmup.pl` program and test it from the command line. Then get everything working with the unit tests. (This is of course contrary to the best-practice approach of writing the tests first, but for this new language, you might find it simpler not to deal with unit tests right off.)

1. Write a Prolog rule `repeat` that succeeds if the second argument is a list with only 0 or more occurrences of the first argument. For example, these goals should succeed:

```
repeat(squid, []).
repeat(squid, [squid,squid,squid,squid]).
```

and this should fail:

```
repeat(squid, [squid,squid,squid,clam]).
```

The starter file includes enough unit tests for this rule, although you can add some others if you want.

In addition, try your goal with a variable for either the first or second argument. You don't need to include any output from this however. Backtrack a few times if there are more answers available. For example try:

```
repeat(clam,Xs).
repeat(X, [squid,squid,squid]).
```