Logic Programming Worksheet II

Fall 2017

CSCI 320

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For this worksheet, we are going to get our first exposure to Prolog. We won't be doing any coding just learning how to run this new system. We'll save that for Thursday.

1. Download and install the interpreter we will be using: http://www.swi-prolog.org/Download.html

2. Now if you just look for this program in your start menu, it will run of course, but the best way to get the environment setup to the correct directory is to create a .pl file using notepad (or similar) and then double click on that file to open up everything. For your first program, insert the following in your text editor and save that file as firstExample.pl:

```
likes(john,fred).
likes(john,beer).
likes(john,john).
likes(mary,beer).
likes(john,X) :- likes(X,beer).
```

Double click on this file and load it using:

```
[firstExample].
```

Show me proof that it ran.

3. Now that it runs, tell me what each line does. What type of statement it is, etc?

4. Next create a file called gcd.pl and insert the following:

   ```
   gcd(A,0,A) :-!.
   gcd(A,B,D) :- (A > B), (B > 0),!,R is A mod B,gcd(B, R, D).
   gcd(A,B,D) :- (A < B), gcd(B, A, D).
   ```

   After you load this using "[gcd].", show me how you would use it to test whether 2 is the gcd of 4 and 2 and whether 3 is the gcd of 4 and 2.

Upload all the things to OAKS.