CSC 351L – Comparative Programming Languages Lab
Project 2 – Prolog File I/O
Due: February 25, 2021 at 11:59 pm

Purpose:

To explore Prolog input and output, especially file input and output.

Description:

When we looked at the rules for Fibonacci numbers, we added assertions of new values we calculated so that we could calculate values larger than 25 without running out of stack space. The problem was that the new facts we assert are lost when we leave the Prolog system. For this project, you will expand a set of rules for Fibonacci number so that we can write out the facts at the end of a session, and then read them in at the start of the next.

Steps:

1) Copy the files `fib3.pl` and `fibData` from the directory:

   `~mcconnel/CSC351/Prolog/Project2`

2) Add a functor `saveit/0` that will open the file `fibData`, write the data we've calculated into this file, and then close the file. You will need a helper predicate to do this.
3) Add a functor `readit/0` that will open the file `fibData`, read the data in it using the values to assert Fibonacci number values. You will need a helper predicate to do this.

File Structure:

As was discussed in the Prolog videos, for the values to be read in, each separate value must end with a period. For this reason, we will store the information with the "count" number first, and then the Fibonacci number on the following line. So, a file with seven Fibonacci numbers in it would have the following:

```
7.
13.
6.
8.
5.
5.
4.
3.
3.
2.
2.
1.
1.
1.
```

Note: you will need to use asserta when reading the file to assure that the known facts appear before the rule. Because of this and the fact that retract removes facts from the top, if you just read the data file and then immediately write it back out, the values will be reversed. This is not a problem and is actually expected.

Deliverables:

When you complete the program, you will prepare two things: a project report and a zip file containing all of your code.

The project report must use the format given in the sample file on D2L. This report can be prepared as a text file, MS Word document, or PDF. The project report should not be included in the zip file.

The zip file should include all prolog files. You can create the zip file in one of two ways – using zip on brahe or on your own computer.

The two items must be uploaded to the Project 2 drop box on D2L. No other form of submission will be accepted.