CSCE 531 Spring 2021 Project 1

Due on Thursday, April 15, 2021

Part 1.

Install BNFC and the Haskell Platform on your computer.

Follow the steps described in sections 2.1 and 2.2 [R] and verify that you obtain the files described there, for both Haskell and Java.

Submit a pdf document with a script or screenshot showing the files in your directory of folder. (One makefile will be renamed by BNCF; that is fine.)

Part 2.

Implement a calculator in Haskell as described in Section 2.6 [R].

Submit a pdf document with scripts or screenshots showing the files in your directory of folder and the result of running the command line input in sections 2.6.

Tips on how to complete PR1 successfully for CSCE 531 students, Spring 2021

1. Use the latest version of bnfc, version found at http://bnfc.digitalgrammars.com/download/, which includes other, older, versions. In turn, this site is linked to Arne Ranta's textbook website, http://www.grammaticalframework.org/ipl-book/. We refer to this textbook as [R].

Make sure to read the errata linked to http://www.grammaticalframework.org/ipl-book/. An error in the last line of Calculator.hs is described there.

If you install the Haskell Platform (https://www.haskell.org/platform/), the Haskell compiler ghc, the lexical analyzer generator Alex, and the parser generator Happy will be installed.

Haskell uses implicit grouping by indentation. The book uses indentation properly. If you do not indent, you need to use braces.

The single quotes around div in program Interpreter.hs (middle of page 25 [R]) are single backquotes: `div` is correct, 'div' is incorrect. (In Haskell, backquotes around a function turn it into an infix operator.)

Windows users need to be aware that they need to use Linux-style echo and make.

echo in Windows PowerShell (which is started by Windows-X) works the intended way; it does not work in the intended way in a Command Prompt terminal; I suspect that the same is true of pipe (|). So: run your Calculator as in the middle of page 26 [R] from PowerShell.

make can be installed as described in https://stackoverflow.com/questions/2532234/how-to-run-a-makefile-in-windows (entry of Jul 15 '19 at 15:05):

> Step 1: Install the chocolatey package manager for WINDOWS (compatible to Windows 7+ / Windows Server 2003+) here (https://chocolatey.org/install)
> Step 2: run choco install make