Programming Languages

Dr. Gurka, Spring 2019 Assignment Cover Letter

Name: Kenneth Berry

Assignment: Project #2 - Lisp

Date submitted: 3/6/19

Total time on project: 15 hours

Programming language(s): Lisp

On time or GOOJF? On time

Is anything missing or not working correctly? Be specific.

There is nothing missing or not working correctly, that I am aware of.

Did you collaborate with any classmates on this project?

If yes, who was it, and what did you work together on?

I did not collaborate with any classmates on this project.

Did you get any tutoring or similar help on this project, or otherwise work with someone outside class? If yes, explain.

I did not get any tutoring or similar help on this project or work with anyone outside of class.

What resources and references, if any, did you use? Be specific.

I only used the Lisp QRS that was provided in class and the debug error messages that were printed out by the Steel Bank Common Lisp (SBCL) compiler when there was an error in my code.

Any special notes about your project (assumptions about unusual data, clarifications on specifications, information on how to run the code, etc.)?

I used the Steel Bank Common Lisp (http://www.sbcl.org/) compiler which allowed me to use Microsoft Visual Studio Code for my IDE and execute lisp files in an integrated terminal. To speed up testing I used print to display the results of my tests instead of loading my lisp file and calling the functions with my test data. I left my tests, but commented them out so that they don’t display when the lisp file is loaded.

The Steel Bank Common Lisp compiler would throw an undefined variable error when I tried using setf to create test variables, so I ended using defvar instead.

Any additional work (extra credit, fancy interfaces, etc.)?

I did not do any extra credit work for this project.

Explain how you tested your project.

I wrote a test plan for each function, created test variables for the various test cases, and ran tests for each test case. I then debugged the code until I got the expected results.

What went well?

After I used recursion to solve the first few problems, I started to get a better understanding of how to use recursion in Lisp and the rest of the problems became easier. I didn’t feel very comfortable with Lisp syntax before starting this project, but I feel much more confident reading and writing Lisp afterwards.

What problems did you have?

I didn’t have any significant problems during this project. Most of my problems were just getting used to Lisp syntax in the beginning of the project and learning how to understand the error messages that were generated by the compiler.

If you used a language new (or almost new) to you, explain how your learning process went.

Language:

I had never worked in Lisp before this project. I have only learned how to use the parts of Lisp that were included in the Lisp QRS that was provided to us in class. I haven’t yet learned how to do anything in Lisp that wasn’t required for this project, so my learning process was mainly looking at the examples provided in the Lisp QRS and attempting to do the practice problems.

Lisp is very interesting and I plan on learning more about it and how to write more complex Lisp programs.

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Other discussions for a specific project, if any (see project specifications):

1. Had you worked in Lisp or a Lisp dialect before? If so, how much?

I had never worked in Lisp or any Lisp dialect before this project.

1. What development environment did you use? If it’s other than LispWorks, include a link to the software’s main page.

I used Microsoft Visual Studio Code for my IDE with the Code Runner extension installed. Code Runner adds a button to the IDE that runs the current file via a set of preset console commands. By default, Code Runner runs Lisp files using the Steel Bank Common Lisp compiler, but settings can be changed so that it can use any compiler that can be called from the command line.

Links:

MS Code - <https://code.visualstudio.com/>

Code Runner - <https://marketplace.visualstudio.com/items?itemName=formulahendry.code-runner>

SBCL - <http://www.sbcl.org/>

1. How much time had you spent working on the practice exercises before starting this assignment?

I worked on a few practice exercises before starting this assignment, but not many. I did not track my time spent doing practice exercises, but I would estimate that I only did about 2-3 hours of practice before starting this project.

1. How comfortable were you with recursion before beginning Lisp? And now?

I was confident with recursion before beginning this project and learning Lisp. I became confident with recursion while working with linked lists during CS 2 and have been using recursion in other projects since then.