Irfan Shaik
CS314 Final Project
Professor Ames

Project Description

Executing:

My project can be run by typing:

1. make install
2. make test

The inputs are located in the testcases folder and the outputs are located in the main directory. You can change the input files to see the code on different testcases or run:

./gps -o outputfilename.py inputfilename.txt

Future Work:

My code fails when parsing a code that does not follow my grammar. This means that the input code does not contain the structure of code found in most pseudocode. It means that the input lines do not follow my grammar. My grammar comprises the following rules:

```
<EQUALITY> <ARGUMENT ONE> <DELIMITER> <ARGUMENT TWO>
<CONDITIONAL> <ARGUMENT ONE>
<DISPLAY> <ARGUMENT ONE>
<LOOP>
<SWAP> <ARGUMENT ONE> <DELIMITER> <ARGUMENT TWO>
```

For example the sentence

```
Insert 8 into sorted [a1,a2,a3,a3….]
```

Is a complex statement that does not follow one of the grammars in my language. In the future I hope to implement a complex grammar that breaks a statement down into smaller statements like so:

```
<Insert> <8> <into>  [ <sorted> [a1,a2,a3,a3….] |
```

Bugs:

My code fails to space the code with tabs when the user spaces their code differently from the way Python tabs are normally done. This causes errors when understanding where conditional statements end.

How My Project Relates to The Course:

This course covered various programming paradigms from Python to racket to haskell as well as the different ways in which these programs execute the same logic. My project relates to the earlier portion of the course where we learned python syntax. It also relates to the end of the semester when we learned the difference between functional and imperative languages. I built

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on this understanding by building a compiler, which helps me understand the way a computer interprets a programming language. I built a grammar which builds on how a computer program is understood by a computer.