Program Description:

A program that contains a simple lexical and syntax analyzer based on a custom programming language.

Program Modules:

This exercise is an extension of the previously created program. This Documentation will explore the newly added functions instead.

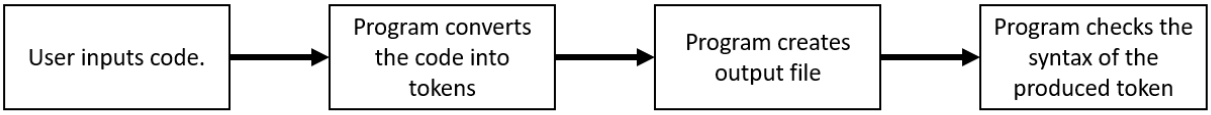
MainInterface.py

- **syntax()** - uses the final created list of tokens based on user input. Automatically called when compiling the token. This function splits the list of tokens into respective lines and submits it to checksyntax().

Syntaxcheck.py

- **checksyntax(Arr)** - called by syntax(). This function takes in a line of tokens and checks each token to make sure it follows the rules of the language. Returns 0 before and after syntax analysis, 1 if there is an ongoing syntax analysis and 2 if there is an error
- **op_syntax(Arr, index)** - contains the grammar of the operations ADD, SUB, MULT, DIV, and MOD. Returns 1 if there are no errors, returns 2 if there are.
- **beg_syntax(Arr, index)** - contains the grammar of the BEG keyword. Returns 1 if there are no errors, returns 2 if there are.
- **print_syntax(Arr)** - contains the grammar of the PRINT keyword. Returns 1 if there are no errors, returns 2 if there are.
- **int_syntax(Arr, index)** - checks and evaluates the grammar for INT keyword, returns 1 if there are no errors, and returns 2 if there are.
- **intLit_syntax(Arr, index)** - checks and evaluates the grammar for INT_LIT keyword and returns 1 if there are no errors and 2 if it encounters one.
- **ident_syntax(Arr, index)** - checks the grammar for the IDENT keyword. If the process evaluates to true, it returns 1 and returns 2 when an error during analysis is encountered.
- **is_syntax(Arr, index)** - checks for the grammar for the IS keyword. If the rules are met, it returns 1 – indicating no rules are violated and 2 when an error is encountered.
- **str_syntax(Arr, index)** - checks the grammar for the STR keyword - returns 1 if there are no errors and returns 2 when an error is encountered.
- **newln_syntax(Arr, index)** - checks the grammar for the NEWLN keyword - returns 1 when no errors are encountered and 2 when a grammar rule is violated.

Control Flow:



Module Distribution:

The entirety of the Syntaxcheck.py was written by Ferdinand Gador II and Van Joseph P. Cabuga

Displaying of results and errors by Jasper Villarosa and Mark Valderrama