#SPL Compiler ##Introduction This readme will outline the steps taken to create the SPL compiler, it will cover why certain decisions were made. It will also highlight the main features of the compiler. Furthermore, it will outline to folder structure, files contained and extra tests that are included.

##Assumptions

##Files and Folder Structure

```
| -- /bin                                  | Folder containing the compiled binaries.
    | -- compiler.exe                      | The spl compiler.
    | -- lexer.exe                         | This executable will read and print the
tokens within an SPL file.
    | -- parser.exe                        | This executable will parse the tokens
from flex and print the bison debug information.
    | -- tree.exe                          | This executable will parse the tokens
from flex and create and print the parse tree in a nice format.
| -- /src                                  | This directory contains all the source
for the four executables.
    | -- spl.c                             |
    | -- spl.y                             | This is the bison file, it also contains
all the logic for optimisations and error and warning generation.
    | -- spl.l                             | This is the lex file that parses raw
text into lexemes which are fed into bison.
| -- /tests                               | This directory contains all the tests
that were both created and part of the course work files. The details of the tests
are in the test section of this document.
    | -- a.spl                             |
    | -- assigned_used.spl                 |
    | -- assignment_optimisation.spl       |
    | -- b.spl                             |
    | -- c.spl                             |
    | -- calculator.spl                    |
    | -- constant_folding.spl              |
    | -- d.spl                             |
    | -- e.spl                             |
    | -- final_types.spl                   |
    | -- HelloWorld.spl                     |
    | -- identifier_too_long.spl           |
    | -- limits.spl                        |
    | -- not_declared.spl                  |
    | -- operator.spl                      |
    | -- read.spl                          |
    | -- redeclaration.spl                 |
    | -- unassigned_used.spl               |
    | -- var_usage.spl                     |
    | -- write_expressions.spl             |
    | -- zero_division.spl                 |
| -- 600087ACW2019.pdf                     | This is the assesed course work
  description and contains the basic specification for the language.
  | -- spl_bnf.txt                         | This is the bnf that was derrived from
  the railroad diagrams within 600087ACW2019.pdf.
  | -- makefile                            | This is the make file that will build
```

```
    the executables found in the bin directory.
    | -- README.md                          | This is this file.
```

##Highlights

##Design Decisions

##Parse Tree

##Symbol Table ###Program ###Variables ###Constants ###Operators ###Types

##Tests

##Variable Usage Tree

##Evaluation

##Future Plans

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