<https://github.com/AlexandraBledea/Sem5-FLCD>

**Lex Specification File**

%{

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

int currentLine = 1;

%}

%option noyywrap

IDENTIFIER [a-zA-Z\_][a-zA-Z0-9\_]\*

NUMBER\_CONST 0|[+|-]?[1-9][0-9]\*([.][0-9]\*)?|[+|-]?0[.][0-9]\*

STRING\_CONST [\"][a-zA-Z0-9 ]+[\"]

CHAR\_CONST [\'][a-zA-Z0-9 ][\']

%%

"read"|"write"|"if"|"else"|"for"|"while"|"int"|"string"|"char"|"return"|"start"|"array" {printf("Reserved word: %s\n", yytext);}

"+"|"-"|"\*"|"/"|"%"|"<="|">="|"=="|"!="|"<"|">"|"=" {printf("Operator: %s\n", yytext);}

"{"|"}"|"("|")"|"["|"]"|":"|";"|","|"'"|"\"" {printf("Separator: %s\n", yytext);}

{IDENTIFIER} {printf("Identifier: %s\n", yytext);}

{NUMBER\_CONST} {printf("Number: %s\n", yytext);}

{STRING\_CONST} {printf("String: %s\n", yytext);}

{CHAR\_CONST} {printf("Character: %s\n", yytext);}

[ \t]+ {}

[\n]+ {currentLine++;}

[0-9][a-zA-Z0-9\_]\* {printf("Illegal identifier at line %d\n", currentLine);}

[+|-]0 {printf("Illegal numeric constant at line %d\n", currentLine);}

[+|-]?[0][0-9]\*([.][0-9]\*)? {printf("Illegal numeric constant at line %d\n", currentLine);}

[\'][a-zA-Z0-9 ]{2,}[\']|[\'][a-zA-Z0-9 ][a-zA-Z0-9 ][\'] {printf("Illegal character constant at line %d\n", currentLine);}

[\"][a-zA-Z0-9\_]+|[a-zA-Z0-9\_]+[\"] {printf("Illegal string constant at line %d\n", currentLine);}

%%

void main(argc, argv)

int argc;

char\*\* argv;

{

if (argc > 1)

{

FILE \*file;

file = fopen(argv[1], "r");

if (!file)

{

fprintf(stderr, "Could not open %s\n", argv[1]);

exit(1);

}

yyin = file;

}

yylex();

}

**Demo**

We first run the command:



The we run:



An executable was created after the second command, so now we can run the program.

We have 4 examples for which we can run the program (p1.txt, p2.txt, p3.txt and p1err.txt)

In this demo, I am going to run the program for p2.txt, using the following command:



Where a.exe being the generated executable.

The output is the following:

Text

Description automatically generated