**COMPILER LAB-PROJECT REPORT**

**SYNTAX ANALYZER FOR C COMPILER**

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**OBJECTIVE:**

Our aim is to build a syntax analyzer for C language.It checks syntaxes and if there is any error,it intimates us the error,what kind of error it is and line number in which the error occurs.

**TOOLS USED:**

* LEX- is used to split the text into a list of tokens, what text become token can be specified using regular expression in **lex** file.
* YACC-is used to give some structure to those tokens.It  implements the actual computer language; recognizing a for statement, for instance, or a function **definition**.

**IMPLEMENTATION DETAILS:**

In the lex file,we have listed tokens such as,return a token if a FOR keyword is encountered.Likewise we have listed tokens for all the keywords in C language.

In the yacc file,all the productions have been listed out.

It handles:

* FOR loop
* WHILE loop
* Nested FOR
* Nested WHILE
* FOR inside WHILE
* WHILE inside FOR
* Structure
* int,float,void,char declarations
* Function call
* Function definition
* Functions both above and below main function
* SWITCH case
* Array declarations
* It omits single and multi-line comments
* It handles header files
* IF condition
* It checkes open and close braces
* It handles pointers also.

**OUTPUT:**

It prints done parsing if there is no error.In case of any error,it prints the error line number,error name and where the error starts.

**GIT LINK:**

https://github.com/monaaaaaaaaaaaa/compiler.git