Lexical Analysis C Language

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Scanning

Since the source file has include and define directives, the preprocessor previously applied each of them correctly so that the scanner receives only a temporary input file.

Afterwards, the scanner goes through the temporary file returning the tokens one by one and in order, according to the parsed source program. In c there are tokens of different types such as operators, identifiers. literals, reserved words and separator characters.

Any character not belonging to the c lexicon that can be parsed is returned as a lexical error.



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FLEX

The scanner is a lex file, which are comprised of three sections:

- The Definition Section: This sections is made up of several regular expressions that act as global declarations that may be used in the next section.
- The Rules Section: This section uses the global declarations of the previous section to define what actions must be taken when a specific regular expression is found.
- The Code Section: This section is attached at the end of the lex output file and may contain any code written and executed by the C code, due to lex usually being paired with yacc.

Tokens

- Operators
- Intliterals
- Floatliterals
- Doubleliteral
- Charliteral
- Stringliteral
- Reserved Words
- Separator characters
- Identifiers
- Errors



Font Lines

```
int test () {
printf ( \%d , 1);
int cinco = 5;
int main ( ) {
int t = 100301;
int r = hola ();
char f [10] = ";
int v = 1;
double r = 2.435e2;
\frac{\text{char}}{\text{printf}} r = y;
\frac{\text{printf}}{\text{os}}, f;
int main ( ) {
int t = 100301:
int r = hola ();
```

Font Lines

```
char f [ 10 ] = ";
int v = 1;
double r = 2.435e2;
char r = y;
printf ( "0s", f);
}
```

Histogram



 \blacksquare Operators \blacksquare IntLiterals \blacksquare FloatLiterals \blacksquare DoubleLiterals \blacksquare CharLiterals \blacksquare S



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