

Ex No: 2

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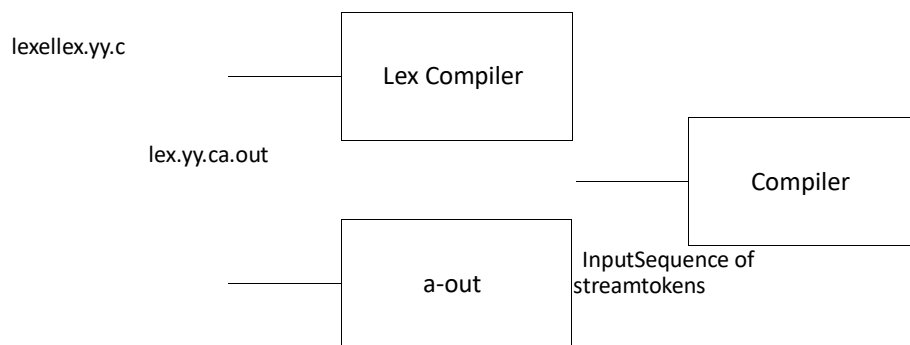
IMPLEMENT A LEXICAL ANALYZER TO COUNT THE NUMBER OF WORDS USING LEX TOOL

AIM:

To implement the program to count the number of words in a string using LEX tool.

STUDY:

Lex is a tool in lexical analysis phase to recognize tokens using regular expression. Lex tool itself is a lex compiler.



- lex.l is an input file written in a language which describes the generation of lexical analyzer. The lex compiler transforms lex.l to a C program known as lex.yy.c.
- lex.yy.c is compiled by the C compiler to a file called a.out.
- The output of C compiler is the working lexical analyzer which takes stream of input characters and produces a stream of tokens.
- yylval is a global variable which is shared by lexical analyzer and parser to return the name and an attribute value of token.
- The attribute value can be numeric code, pointer to symbol table or nothing.
- Another tool for lexical analyzer generation is Flex.

STRUCTURE OF LEX PROGRAMS:

Lex program will be in following form

declarations

translation rules

auxiliary functions

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ALGORITHM:

- Declare necessary header files and variables in the beginning.
 - Define rules in the form of regular expressions to identify words and newline characters.
 - Increment a counter each time a word is matched.
 - Reset the counter when encountering a newline character and print the count.
- Implement the main function to initiate lexical analysis and return 0.

PROGRAM:

```
#include<stdio.h>
#include<string.h> int
i = 0;

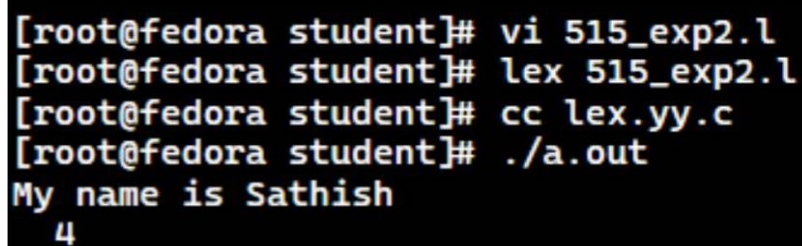
/* Rules Section*/

([a-zA-Z0-9])* {i++;} /* Rule for counting number
of words*/
"\n" {printf("%d\n", i); i = 0;}

intyywrap(void) { }
int main()

// The function that starts the analysis
yylex(); return 0;
```

OUTPUT:



```
[root@fedora student]# vi 515_exp2.l
[root@fedora student]# lex 515_exp2.l
[root@fedora student]# cc lex.yy.c
[root@fedora student]# ./a.out
My name is Sathish
4
```

RESULT

Thuse to implement the program to count the number of words in a string using LEX tool has been executed sucessfully

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