Ex-3-CD-Lab Public

forked from RamachandranSEC/Ex-3-CD-Lab

This branch is 1 commit ahead of RamachandranSEC/Ex-3-CD-Lab:main .

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ganeshprabhu2005 Update README.md

a12de83 · now

README.md	Update README.md	now

Ex-3-RECOGNITION-OF-A-VALID-ARITHMETIC-EXPRESSION-THAT-USES-OPERATOR-AND-USING-YACC

Date:

AIM

To write a yacc program to recognize a valid arithmetic expression that uses operator +,- ,* and /.

ALGORITHM

1. Start the program.

2. Write a program in the vi editor and save it with .l extension.
3. In the lex program, write the translation rules for the operators =,+,-,*,/ and for the identifier.
4. Write a program in the vi editor and save it with .y extension.
5. Compile the lex program with lex compiler to produce output file as lex.yy.c. eg $ lex filename.l
6. Compile the yacc program with yacc compiler to produce output file as y.tab.c. eg $ yacc –d arith_id.y
7. Compile these with the C compiler as gcc lex.yy.c y.tab.c
8. Enter an arithmetic expression as input and the tokens are identified as output.

PROGRAM

```
NAME:KIRUTHIKA M
REGISTER NO:212223040098

Program name:ex3.l
%{
/* This LEX program returns the tokens for the
expression */
#include "y.tab.h"
%}
%%
"=" {printf("\n Operator is EQUAL");}
"+" {printf("\n Operator is PLUS");}
"-" {printf("\n Operator is MINUS");}
"/" {printf("\n Operator is DIVISION");}
"*" {printf("\n Operator is MULTIPLICATION");}
[a-zA-Z][0-9] {
printf("\n Identifier is %s",yytext);
return ID; }
. return yytext[0];
\n return 0;
%%
int yywrap()
{
return 1;
}
Program name:ex3.y
%{
#include<stdio.h>
/* This YACC program is for recognizing the Expression
*/
%}
%token A ID
%%
statement: A'='E
| E {
```

```
printf("\n Valid arithmetic expression");
$$=$1;
}
;
E: E'+'ID
| E'-'ID
| E'*'ID
| E'/'ID
| ID
;
%%
extern FILE*yyin;
main() {
do {
yyparse();
}while(!feof(yyin)); }
 yyerror(char*s)
{
}
```

README

```
C:\GnuWin32\bin>CD.exe
x=a*b+c

 Identifier is x
 Operator is EQUAL
 Identifier is a
 Valid arithmetic expression
 Operator is MULTIPLICATION
 Identifier is b
 Operator is PLUS
 Identifier is c
 Valid arithmetic expression
```

RESULT

A YACC program to recognize a valid arithmetic expression that uses operator +,-,* and / is executed successfully and the output is verified.