**Bhushan Sonawane**

**BE E 66 (BATCH 3)**

%{

#include <stdio.h>

int linen = 0;

%}

letter [a-zA-Z]

digit [0-9]

blank [ \b\t]

nline [\n]

%%

"'"[a-zA-Z\_]"'" {printf("::Char Const detected %s\n",yytext);}

{digit}+ {printf("::Integer Const detected %s\n",yytext);}

{digit}+"."{digit}+ {printf("::Float Const detected %s\n",yytext);}

\"[^\"]\*\" {printf("::String Literal detected %s\n",yytext);}

"if"|"else"|"while"|"int"|"float"|"double" { printf("Keyword detected: %s\n",yytext);}

"#include" {printf("::Preprocessor Directive Include detected %s\n",yytext);}

"#define" {printf("::Preprocessor Directive define detected %s\n",yytext);}

"//".\* {printf("::Single Line Comment detected %s\n",yytext);}

"/\*"([^\*]\*[^\/]\*)"\*/" {printf("::Multiple Line Comment detected %s ::Comment Ended\n",yytext);}

"=" {printf("::Assignment operator detected %s \n",yytext);}

"=="|"!=" {printf("::Relational operator detected %s \n",yytext);}

"="|"+"|"-"|"/"|"\*" {printf("::Arithmatic operator detected %s \n",yytext);}

"&&"|"||" {printf("::Logical operator detected %s \n",yytext);}

"&"|"|" {printf("::Bitwise operator detected %s \n",yytext);}

";"|"," {printf("::delimeter detected %s \n",yytext);}

{letter}({letter}|{digit})\* { printf("::variable detected: %s\n",yytext);}

"{"|"}"|"("|")" {printf("::Bracket Detected %s \n",yytext);}

"++" {printf("::Increment Detected %s \n",yytext); }

"--" {printf("::Decrement Detected %s \n",yytext); }

"?"/[^:]\*":" {printf("::Ternary Detected %s \n",yytext); }

{nline} { ++linen; }

{blank}+ {printf("::WhiteSpace detected %s \n",yytext);}

. {printf("::Lex Error NOT DETECTED %s LINE No.%d\n",yytext,linen);}

%%

int main(){

stdin=fopen("in","r");

stdout=fopen("out","w");

yylex();

return 0;

}

INPUT

#include <stdio.h>

{

char a,b,c='a';

int a=4;

float a=5.5;

char a[34];

//char a[]="sdfS",b[]="sdfsdf";

printf("%d",5) printf("%d",5);

/\*

fgfgfgsdg

sdgsdg

sdgg

\*/

printf("%d",5);

b=a+4;

b&&a

a==b?sfs?df: :sdf;

}

/\*

\*/

OUTPUT

::Preprocessor Directive Include detected #include

::WhiteSpace detected

::Lex Error NOT DETECTED < LINE No.0

::variable detected: stdio

::Lex Error NOT DETECTED . LINE No.0

::variable detected: h

::Lex Error NOT DETECTED > LINE No.0

::Bracket Detected {

::variable detected: char

::WhiteSpace detected

::variable detected: a

::delimeter detected ,

::variable detected: b

::delimeter detected ,

::variable detected: c

::Assignment operator detected =

::Char Const detected 'a'

::delimeter detected ;

Keyword detected: int

::WhiteSpace detected

::variable detected: a

::Assignment operator detected =

::Integer Const detected 4

::delimeter detected ;

Keyword detected: float

::WhiteSpace detected

::variable detected: a

::Assignment operator detected =

::Float Const detected 5.5

::delimeter detected ;

::variable detected: char

::WhiteSpace detected

::variable detected: a

::Lex Error NOT DETECTED [ LINE No.5

::Integer Const detected 34

::Lex Error NOT DETECTED ] LINE No.5

::delimeter detected ;

::Single Line Comment detected //char a[]="sdfS",b[]="sdfsdf";

::variable detected: printf

::Bracket Detected (

::String Literal detected "%d"

::delimeter detected ,

::Integer Const detected 5

::Bracket Detected )

::WhiteSpace detected

::variable detected: printf

::Bracket Detected (

::String Literal detected "%d"

::delimeter detected ,

::Integer Const detected 5

::Bracket Detected )

::delimeter detected ;

::Multiple Line Comment detected /\*

fgfgfgsdg

sdgsdg

sdgg

\*/ ::Comment Ended

::variable detected: printf

::Bracket Detected (

::String Literal detected "%d"

::delimeter detected ,

::Integer Const detected 5

::Bracket Detected )

::delimeter detected ;

::variable detected: b

::Assignment operator detected =

::variable detected: a

::Arithmatic operator detected +

::Integer Const detected 4

::delimeter detected ;

::variable detected: b

::Logical operator detected &&

::variable detected: a

::variable detected: a

::Relational operator detected ==

::variable detected: b

::Ternary Detected ?

::variable detected: sfs

::Ternary Detected ?

::variable detected: df

::Lex Error NOT DETECTED : LINE No.15

::WhiteSpace detected

::Lex Error NOT DETECTED : LINE No.15

::variable detected: sdf

::delimeter detected ;

::Bracket Detected }

::Multiple Line Comment detected /\*

\*/ ::Comment Ended