LAB ASSIGNMENT

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Question – Create lexical analyzer using lex language

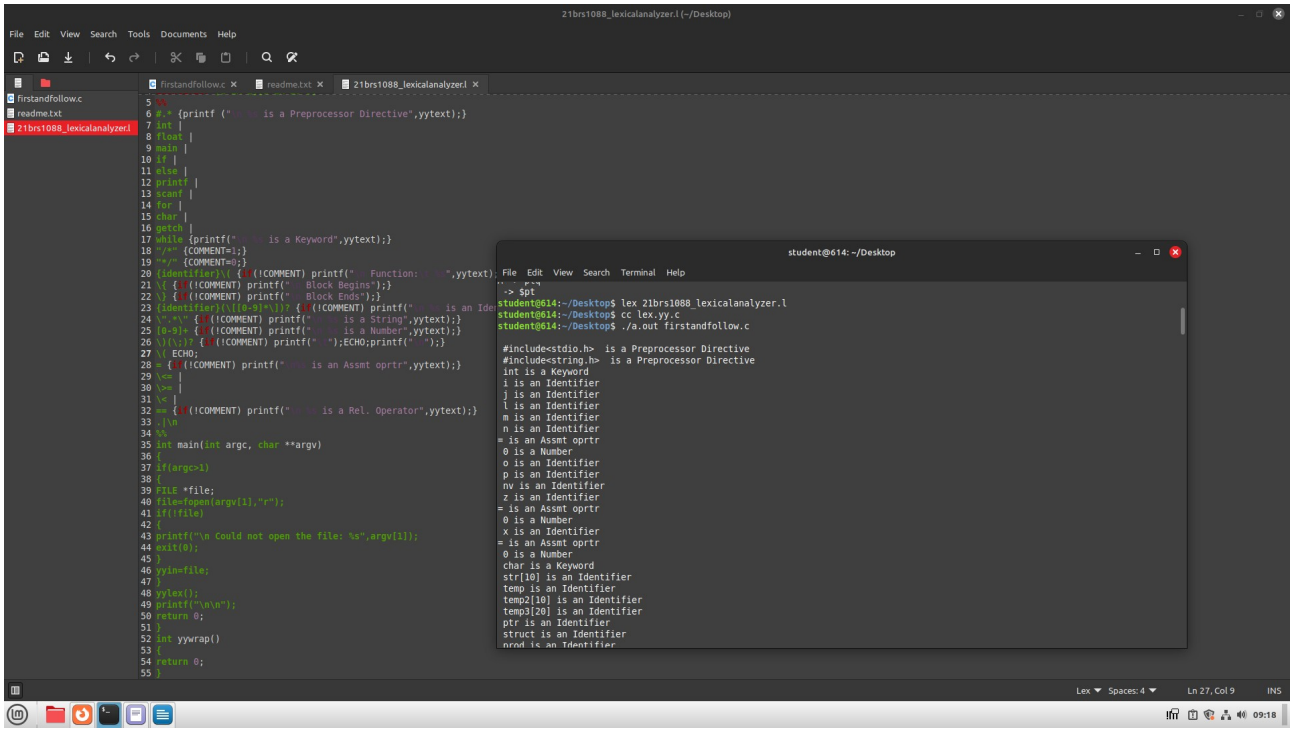
> Reading the first and follow c code to find different tokens

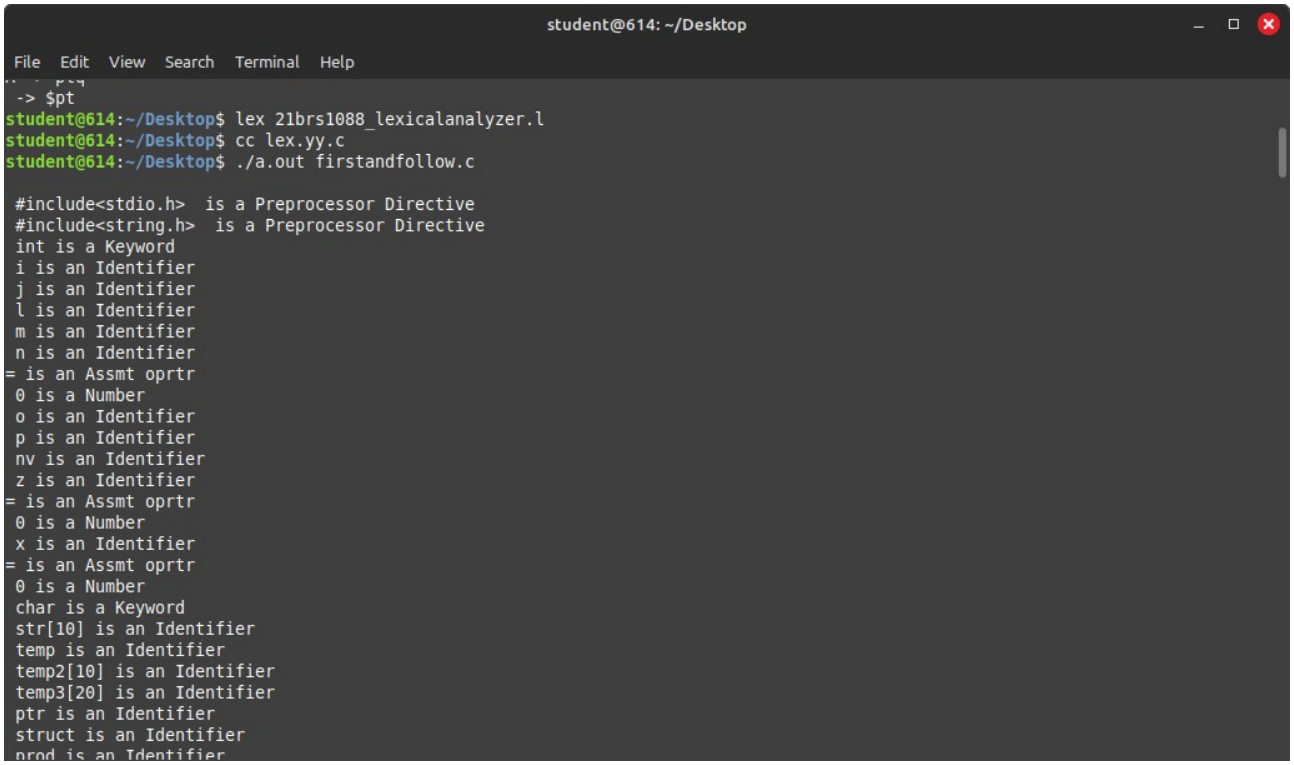
Code

```
%{
int COMMENT=0;
%}
identifier [a-zA-Z][a-zA-Z0-9]*
%%
#.* {printf ("\n %s is a Preprocessor Directive",yytext);}
int |
float |
main |
if |
else |
printf |
scanf |
for |
char |
getch |
while {printf("\n %s is a Keyword",yytext);}
"/*" {COMMENT=1;}
"*/" {COMMENT=0;}
{identifier}\( {if(!COMMENT) printf("\n Function:\t %s",yytext);}
\{ {if(!COMMENT) printf("\n Block Begins");}
\} {if(!COMMENT) printf("\n Block Ends");}
{identifier}(\[[0-9]*\])? {if(!COMMENT) printf("\n %s is an Identifier",yytext);}
\".*\" {if(!COMMENT) printf("\n %s is a String",yytext);}
[0-9]+ {if(!COMMENT) printf("\n %s is a Number",yytext);}
\)(\;)? {if(!COMMENT) printf("\t");ECHO;printf("\n");}
\( ECHO;
= {if(!COMMENT) printf("\n%s is an Assmt oprtr",yytext);}
\<= |
\>= |
\< |
== {if(!COMMENT) printf("\n %s is a Rel. Operator",yytext);}
.|\n
%%
int main(int argc, char **argv)
{
if(argc>1)
{
FILE *file;
file=fopen(argv[1],"r");
```

```
if(!file)
{
printf("\n Could not open the file: %s",argv[1]);
exit(0);
}
yyin=file;
}
yylex();
printf("\n\n");
return 0;
}
int yywrap()
{
return 0;
}
```

OUTPUT




student@614: ~/Desktop
File Edit View Search Terminal Help
-> $pt
student@614:~/Desktop$ lex 21brs1088_lexicalanalyzer.l
student@614:~/Desktop$ cc lex.yy.c
student@614:~/Desktop$ ./a.out firstandfollow.c
#include<stdio.h> is a Preprocessor Directive
#include<string.h> is a Preprocessor Directive
int is a Keyword
i is an Identifier
j is an Identifier
l is an Identifier
m is an Identifier
n is an Identifier
= is an Assmt oprtr
0 is a Number
o is an Identifier
p is an Identifier
nv is an Identifier
z is an Identifier
= is an Assmt oprtr
0 is a Number
x is an Identifier
= is an Assmt oprtr
0 is a Number
char is a Keyword
str[10] is an Identifier
temp is an Identifier
temp2[10] is an Identifier
temp3[20] is an Identifier
ptr is an Identifier
struct is an Identifier
prod is an Identifier