Compiler Design LAB

Lab report

Submitted by

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1. Write a lex program to count the positive numbers, negative numbers, and fractions.

Program:

```
%{
#include<stdio.h>
int negCount=0,posCount=0,fracCount=0;
%}
digit [0-9]
%%
-{digit}+ {
        negCount++;
}

\+?{digit}+ {
 posCount++;
}


-{digit}*["."]{digit}+ {
        fracCount++;
        negCount++;
}
{digit}*["."]{digit}* {
        fracCount++;
        posCount++;
}
. {}
%%
int yywrap(){
        printf("%d,%d,%d",negCount,posCount,fracCount);
        return 1;
}
int main()
{
        yylex();
return 0;
}
```

OUPUT:

```
iiitmanipur@iiitmanipur-HP-ProDesk-600-G4-SFF:~/Alok/CompilerLab$ ./1.out
3 -2 3.2 -23.1 23 -.32

3,3,3iiitmanipur@iiitmanipur-HP-ProDesk-600-G4-SFF:~/Alok/CompilerLab$
```

2. Write a lex program to count the total number of tokens.

Program:

```
%{
#include<stdio.h>
int tokCount=0;
%}
id [a-zA-Z]
digit [0-9]
symb [;)(,]
op[++|--|-*/%]
%%
{id}+ {
        tokCount++;
}
["printf"|"main"|"return"|"for"|"switch"|"scanf"|"include"|"case"|"while"|"void"|"int"|"float"|"double"] {
        tokCount++;
}

{symb} {
        tokCount++;
}
-?{digit}+ {
        tokCount++;
}
{id}[ ] {
        tokCount++;
}
. {}
%%
int yywrap(){
        printf("%d",tokCount);
        return 1;
}
int main(int argc, char* argv[])
{
        yylex();
return 0;
}
```

OUTPUT:

```
iiitmanipur@iiitmanipur-HP-ProDesk-600-G4-SFF:~/Alok/CompilerLab$ ./2.out
int yywrap(){
        printf("%d",tokCount);
        return 1;
}
int main(int argc, char* argv[])
{
        yylex();
return 0;
}
~




32iiitmanipur@iiitmanipur-HP-ProDesk-600-G4-SFF:~/Alok/CompilerLab$
```