

main.c

```
#include <stdio.h>
#include "scanner.h"
char lexeme[MAXTOKENLEN+1];

int main(void)
{
    int toknum;
    int count = 0;
    puts("Seq\tToken\t\tLexeme");
    puts("----\t-----\t\t-----");
    while ((toknum=yylex()) != 0) {
        ++count;
        printf("%3d\t", count);
        switch(toknum) {
            case ERROR:    printf("ERROR"); break;
            case VAR:      printf("VAR");   break;
            case CONST:   printf("CONST"); break;
            case '+':
            case '-':
            case '*':
            case '/':
            case '(':
            case ')':     putchar(toknum); break;
            default:      fatal("Unknown token");
        }
        printf("\t\t%s\n", lexeme);
    }
    return 0;
}

void fatal(char *msg)
{
    fprintf(stderr, "Fatal Error: %s\n", msg);
    exit(1);
}
```

scanner.l

```
%{
#include <string.h>
#include "scanner.h"

}%

%%
[0-9]+      {
              strcpy(lexeme, yytext);
              return CONST;
            }
[a-z][a-z0-9]* {
              strcpy(lexeme, yytext);
              return VAR;
            }
[-+*/()]    {
              strcpy(lexeme, yytext);
              return yytext[0];
            }
[ \t\n]     ;
.           {
              strcpy(lexeme, yytext);
              return ERROR;
            }
%%

/* Old version of flex defines yywrap as a macro */
#ifndef yywrap
yywrap()
{
    return 1;
}
#endif
```