Aim: To count the number of comments, keywords, identifiers, words, lines and spaces from input file.

Lex Code:

```
%option noyywrap
%{
#include <stdio.h>
int comment_count = 0;
int keyword_count = 0;
int identifier_count = 0;
int word_count = 0;
int line_count = 0;
int space_count = 0;
int t_count = 0;
%}

%%
"//"(.*[ \t]*.*)* { comment_count++; }
if|else|"else if"|class|final|static|void|int|double|short|byte|long|float
{ keyword_count++; }
^[a-zA-Z][a-zA-Z]* { word_count++; }
^[a-zA-Z][a-zA-Z0-9_]* { identifier_count++; }
\n { line_count++; }
\t {t_count++;}
[ \t](0-4) { space_count++; }
%%
int main(int argc, char **argv) {
if (argc != 2) {
printf("Usage: %s <input_file>\n", argv[0]);
return 1;
}

yyin = fopen(argv[1], "r");
if (!yyin) {
printf("Error: could not open input file\n");
```
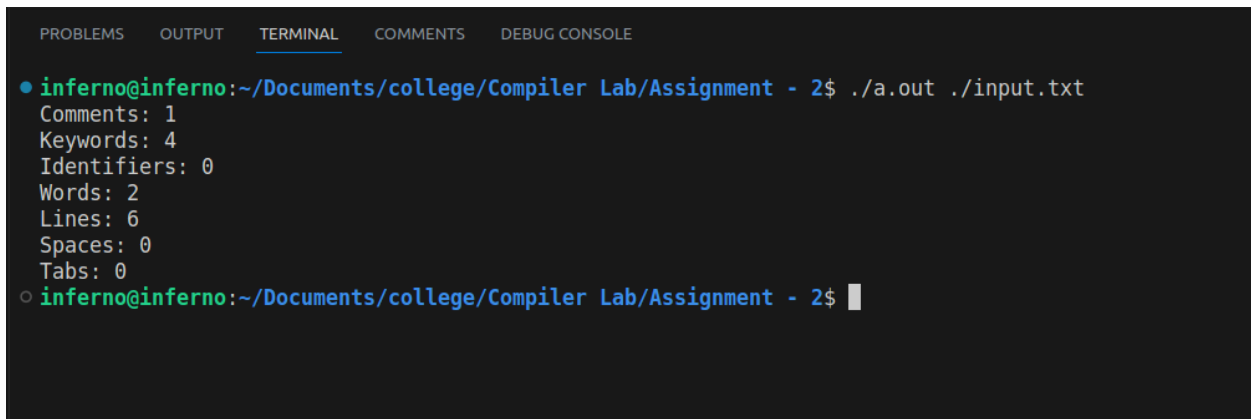
```
return 1;
}

yylex();

printf("Comments: %d\n", comment_count);
printf("Keywords: %d\n", keyword_count);
printf("Identifiers: %d\n", identifier_count);
printf("Words: %d\n", word_count);
printf("Lines: %d\n", line_count);
printf("Spaces: %d\n", space_count);
printf("Tabs: %d\n", t_count);



fclose(yyin);
return 0;
}
```

Input:

```
hello world
// comment
class
static
final
else if
asdfasdf
```

Output:

```
PROBLEMS    OUTPUT    TERMINAL    COMMENTS    DEBUG CONSOLE

inferno@inferno:~/Documents/college/Compiler Lab/Assignment - 2$ ./a.out ./input.txt
Comments: 1
Keywords: 4
Identifiers: 0
Words: 2
Lines: 6
Spaces: 0
Tabs: 0
inferno@inferno:~/Documents/college/Compiler Lab/Assignment - 2$
```