**4. Write a lex program (lex4.l) to recognize and log the occurrences of the following patterns from a subset of C.**

%{

#include <stdio.h>

%}

IDENT [a-zA-Z\_][a-zA-Z0-9\_]\*

INTCONST [0-9]+

FLOATCONST [0-9]+\.[0-9]+

%%

"int" | "float" | "bool" | "char" | "void" { printf("datatype : %s\n", yytext); }

"for" | "while" | "do" | "break" | "continue" { printf("keyword : %s\n", yytext); }

"if" | "else" | "const"| "unsigned" | "return" { printf("keyword : %s\n", yytext); }

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

"<" | ">" | "==" | "&&" | "||" { printf("operator : %s\n", yytext); }

"(" | ")" | "[" | "]" | "{" | "}" | ";" | "'" { printf("punctuation : %s\n", yytext); }

"true" | "false" { printf("constant : %s\n", yytext); }

{FLOATCONST} { printf("constant : %s\n", yytext); }

{INTCONST} { printf("constant : %s\n", yytext); }

{IDENT} { printf("identifier : %s\n", yytext); }

[ \t\n] { /\* Skip whitespace \*/ }

. { /\* Ignore unknown characters \*/ }

%%

int main() {

yylex();

return 0;

}