**LEXICAL ANALYSIS**

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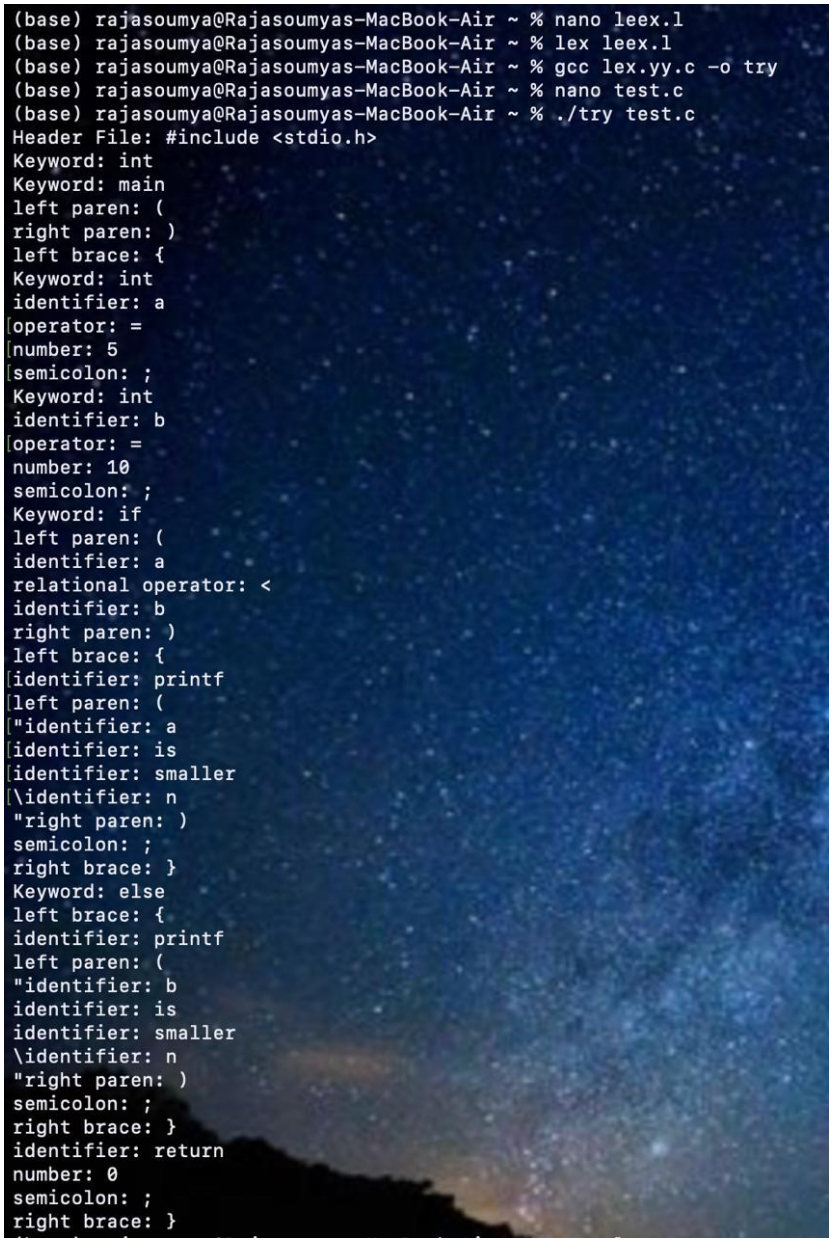
Experiment No: 01

**Aim: To implement Lexical Analyzer Using Lex Tool**

**CODE**

```
  UW PICO 5.09

%{
#include <stdio.h>
FILE *yyin;
%}

digit       [0-9]
letter      [a-zA-Z]
id          {letter}({letter}|{digit})*
number      {digit}+
operator    [\+\-\*/=]
rel_op      [<|>|<=|>=|!=|==]

%%

"int"       {printf("Keyword: %s\n", yytext);}
"main"      {printf("Keyword: %s\n", yytext);}
"if"        {printf("Keyword: %s\n", yytext);}
"else"      {printf("Keyword: %s\n", yytext);}
"while"     {printf("Keyword: %s\n", yytext);}
"for"       {printf("Keyword: %s\n", yytext);}

"("         {printf("left paren: %s\n", yytext);}
")"         {printf("right paren: %s\n", yytext);}
"{"         {printf("left brace: %s\n", yytext);}
"}"         {printf("right brace: %s\n", yytext);}
";"         {printf("semicolon: %s\n", yytext);}

{id}        {printf("identifier: %s\n", yytext);}
{number}    {printf("number: %s\n", yytext);}
{operator}  {printf("operator: %s\n", yytext);}
{rel_op}    {printf("relational operator: %s\n", yytext);}
"#include".* {printf("Header File: %s\n", yytext);}
[ \t\n]     ;   // ignore spaces, tabs, newlines

%%

int main(int argc, char **argv)
{
    if(argc > 1)
    {
        yyin = fopen(argv[1], "r");
    }
    yylex();
    return 0;
}

int yywrap() {
    return 1;
}
```

**OUTPUT**




**RESULT**

Lexical Analysis is successfully implemented for the given code snippet