```
srihari@LAPTOP-AJMTFS87:~/compiler_design/week2$ ./a.out
Enter !!! to stop
we are 123 := ++ _srihari char!!!
Identifier we
Whitespace
Identifier are
Whitespace
Number 123
Whitespace
Assignment operator =
Whitespace
Operator ++
Whitespace
Identifier _srihari
Whitespace
Keyword char encountered
Number = 1        Operator=1      assign = 1      identifier = 3  whitespace = 6Whitespace
^C
srihari@LAPTOP-AJMTFS87:~/compiler_design/week2$ cat q1.l
%{
#include<stdio.h>
#include<string.h>
#include<stdlib.h>
int a=0,b=0,c=0,d=0,e=0;
%}
number [0-9]+
op [-|+|*|/|^|%]+
assign :=
letter [a-zA-Z_]
digit [0-9]
id {letter}({letter}|{digit})*
ws [ \t\n]

%%
"int"|"float"|"for"|"while"|"continue"|"break"|"char"|"switch" {printf("Keyword %s encountered\n",yytext); }
{number} {a++;printf("Number %s\n",yytext);}
{op} {b++;printf("Operator %s\n",yytext);}
{assign} {c++;printf("Assignment operator =\n");}
{id} {d++; printf("Identifier %s\n",yytext);}
{ws} {e++;printf("Whitespace\n");}
"!!!" { printf("Number = %d \t Operator=%d\t assign = %d\t identifier = %d\t whitespace = %d",a,b,c,d,e);}
%%
int yywrap(void){ }
int main(){
        printf("Enter !!! to stop\n");
        yylex();
        return 1;
}
srihari@LAPTOP-AJMTFS87:~/compiler_design/week2$ 
```

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Thursday

1. Write a Lex program to find and count the following
tokens from input :- Identifier, Number, whitespaces, Assignment
Symbol, operator.

```lex
%{
#include<stdio.h>
#include <string.h>
#include <stdlib.h>
int a=0, b=0, c=0, d=0, e=0;
%}

number [0-9]+
op [-|+|*|/|^|!]+

assign :=
letter [a-zA-Z-]
digit [0-9]
id {letter}({letter}|{digit})*
ws [ \t\n]

%%
"int" | "float" | "for" | "while" | "continue" | "break" | "char" | "switch"
            {printf(" keyword %s encountered\n", yytext);}

{number} {a++; printf("Number %s \n", yytext);}
{op} {b++; printf("Operator %s\n", yytext);}
{assign} {c++; printf(" Assignment Operator := \n");}
{id} {d++; printf("Identifier %s\n", yytext);}
{ws} {e++; printf("whitespace \n");}
"!!!" { printf("Number = %d \t Operator = %d \t assign = %d\t
          identifier = %d\t whitespace = %d", a, b, c, d, e);}
%%

int yywrap (void) { }
int main() { printf(" Enter !!! to stop \n");
            yylex(); return 1;
}
```

OUTPUT

Enter !!! to stop
we are 123 := ++ _srikari char!!!

Identifier we
whitespace
Identifier are
Whitespace
Number 123
whitespace
Assignment Operator :=
Whitespace
Operator ++
whitespace
Identifier _srikari
whitespace
Keyword char encountered
Number =1 Operator=1 assign=1 identifier=3 whitespace =6