

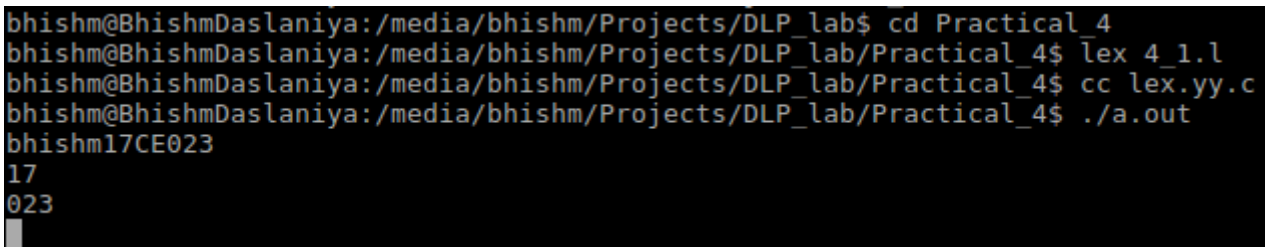
Practical - 4

- Aim :**
1. Write a lex program to extract numbers from give input string.
 2. Write a lex program to extract HTML tags from input.
 3. Write a lex program to replace charusat with cspit.
 4. Write a lex program to eliminate single line and multiline comments from the C program and display rest code as it is on standard output.
 5. Write a Lex program which adds line numbers to the given file and display the same onto the standard output.

Program 1:

```
%{
    #include<stdio.h>
}%
digit [0-9]+
%option noyywrap
%%
{digit} {printf("%s\n",yytext);}
.|\\n;
%%
int main()
{
    yylex();
    return 0;
}
```

Output 1:



```
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab$ cd Practical_4
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ lex 4_1.l
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ cc lex.yy.c
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ ./a.out
bhishm17CE023
17
023
```

Program 2:

```
%{
    #include<stdio.h>
}%
%option noyywrap
%%
"<"[^\>]*">" {printf("%s\n",yytext);}
.|\\n ;
%%
int main(int argc, char **argv)
{
    yyin=fopen(argv[1],"r");
    yylex();
    fclose(yyin);
    return 0;
}
```

Input File: test.html

```
<html>
<head>Practical 4</head>
<body> </body>
</html>
```

Output 2:

```
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ lex 4_2.l
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ cc lex.yy.c
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ ./a.out test.
html
<html>
<head>
</head>
<body>
</body>
</html>
```

Program 3:

```
%option noyywrap
%{
    #include<stdio.h>
}%
%%
charusat {printf("cspit");}
%%
int main()
{
    yylex();
    return 0;
}
```

Output 3:

```
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ lex 4_3.l
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ cc lex.yy.c
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ ./a.out
this is charusat
this is cspit
```

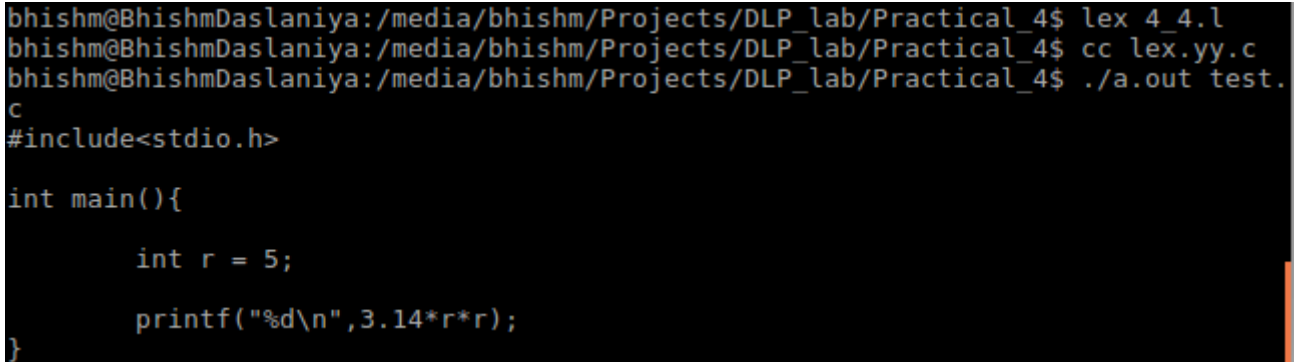
Program 4:

```
%{
    #include<stdio.h>
}%
%option noyywrap
%%
"/*"[^\\n]+"/" {printf(" ");}
"/"/([a-z]|[0-9]|[A-Z])" ")* {printf(" ");}
%%
int main(int argc, char **argv){
    yyin=fopen(argv[1],"r");
    yylex();
    fclose(yyin);
    printf("\n");
    return 0;
}
```

Input Program: test.c

```
#include<stdio.h>
```

```
int main(){
    // This is test Program
    int r = 5;
    /* calculate area
    area = 3.14*r*r */
    printf("%d\n",3.14*r*r);
}
```

Output 4:


```
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ lex 4_4.l
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ cc lex.yy.c
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ ./a.out test.
c
#include<stdio.h>

int main(){

    int r = 5;

    printf("%d\n",3.14*r*r);
}
```

Program 5:

```
%{
int line_number = 1;
}%
line .*\n
%%
{line} { printf("%10d %s", line_number++, yytext); }
%%
int yywrap(){ }
int main(int argc, char*argv[])
{
    yyin=fopen(argv[1],"r");
    yylex();
    printf("\n");
    return 0;
}
```

Input Program: lines.c

```
#include<stdio.h>
```

```
#define PI 3.14
```

```
int main()
{
    int r = 5; // radius
    printf("%d\n",PI*r*r);//area
    return 0;
}
```

Output 5:

```
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ lex 4_5.l
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ cc lex.yy.c
bhishm@BhishmDaslaniya:/media/bhishm/Projects/DLP_lab/Practical_4$ ./a.out lines
.c
    1 #include<stdio.h>
    2 #define PI 3.14
    3 int main()
    4 {
    5     int r = 5; // radius
    6     printf("%d\n",PI*r*r); //area
    7     return 0;
    8 }
```

Conclusion: From this practical I have learnt about lex tool and how to implement some basic lex programs.