1.Lex program to count the number of comment lines (multi line comments or single line) in a program. Read the input from a file called input.txt and print the count in a file called output.txt

```
%{
#include <stdio.h>
int cc=0;
%}
%x CMNT

%%
"/*" {BEGIN CMNT;}
<CMNT>. ;
<CMNT>"*/" {BEGIN 0; cc++;}
%%

int yywrap() { }

int main(int argc, char *argv[])
{
if(argc!=3)
{
printf("Usage : %s <scr_file> <dest_file>\n",argv[0]);
return 0;
}
yyin=fopen(argv[1],"r");
yyout=fopen(argv[2],"w");
yylex();
printf("\nNumber of multiline comments = %d\n",cc);
return 0;
}
```

```
bmscecse@bmscecse-OptiPlex-3060:~/Documents/VAISHNAVI KAMATH$ lex w3p6.l
bmscecse@bmscecse-OptiPlex-3060:~/Documents/VAISHNAVI KAMATH$ gcc lex.yy.c
bmscecse@bmscecse-OptiPlex-3060:~/Documents/VAISHNAVI KAMATH$ ./a.out f1.txt f2.txt

Number of multiline comments = 2
```

2. Write a program in LEX to recognize Floating Point Numbers. Check for all the following input cases

```
%{
#include<stdio.h>
int cnt=0;
%}
sign [+|-]
num [0-9]
dot [.]

%%
{sign}?{num}*{dot}{num}* {printf("Floating point no.");cnt=1;}
{sign}?{num}* {printf("Not Floating point no.");cnt=1;}
%%

int yywrap()
{
}

int main()
{
yylex();
if(cnt==0){
printf("Not floating pnt no.");
}
return 0;
}
```

```
bmscecse@bmscecse-OptiPlex-3060:~/Documents/VAISHNAVI KAMATH$ lex w3p5.l
bmscecse@bmscecse-OptiPlex-3060:~/Documents/VAISHNAVI KAMATH$ gcc lex.yy.c
bmscecse@bmscecse-OptiPlex-3060:~/Documents/VAISHNAVI KAMATH$ ./a.out
-67.5
Floating point no.
-93
Not Floating point no.
```

3. Write a program to read and check if the user entered number is signed or unsigned using appropriate meta character

```
%{
#include<stdio.h>
int cnt=0;
%}
sign [+|-]
num [0-9]
dot [.]

%%
{sign}{num}*{dot}*{num}* {printf("Signed no.");cnt=1;}
{num}*{dot}*{num}* {printf("Unsigned no.");cnt=1;}
%%

int yywrap()
{
}

int main()
{
yylex();
if(cnt==0){
printf("Not floating pnt no.");
}
return 0;
}
```

```
bmscecse@bmscecse-OptiPlex-3060:~/Documents/VAISHNAVI KAMATH$ lex w3p4.l
bmscecse@bmscecse-OptiPlex-3060:~/Documents/VAISHNAVI KAMATH$ gcc lex.yy.c
bmscecse@bmscecse-OptiPlex-3060:~/Documents/VAISHNAVI KAMATH$ ./a.out
+67
Signed no.
89
Unsigned no.
```

4. Write a program to check if the input sentence ends with any of the following punctuation marks (? , fullstop , !)

```
%{
#include<stdio.h>
int cnt=0;
%}
punc [?|,|.|!]
chars [a-z|A-Z|0-9|" "|\t]
%%
{chars}*{punc} {printf("Sentence ends with punc");}
{chars}* {printf("Sentence does not end with punc");}

%%

int yywrap()
{
}

int main()
{
yylex();
return 0;
}
```

```
bmscecse@bmscecse-OptiPlex-3060:~/Documents/VAISHNAVI KAMATH$ lex w3p3.l
bmscecse@bmscecse-OptiPlex-3060:~/Documents/VAISHNAVI KAMATH$ gcc lex.yy.c
bmscecse@bmscecse-OptiPlex-3060:~/Documents/VAISHNAVI KAMATH$ ./a.out
Hello
Sentence does not end with punc
Hello hi.
Sentence ends with punc
```

5.

```
%{
#include<stdio.h>
int cnt=0;
%}
chars [a-z|A-Z|0-9]
check [A|a|AN|An|THE|The]
%%
{check}+{chars}* {printf("Begins with %s",yytext);}
```

```
{chars}* {printf("Invalid");}

%%

int yywrap()
{
}

int main()
{
yylex();
return 0;
}
```