**Program1**

%{

void display(int) ;

%}

%%

[a|e|i|o|u] {

int flag=1 ;

display(flag);

return;

}

.+ {

int flag=0 ;

display(flag) ;

return;

}

%%

void display(int flag)

{

if(flag==0)

printf("The given word is not a vowel\n");

else

printf("The given word is a vowel\n");

}

main()

{

printf("Enter a word to check whether it is a vowel or not:\n");

yylex();

}

/\*

Output

lab301pc35@lab301pc35:~/Desktop$ lex vowel.l

lab301pc35@lab301pc35:~/Desktop$ cc lex.yy.c -ll

lab301pc35@lab301pc35:~/Desktop$ ./a.out

Enter a word to check whether it is a vowel or not:

a

The given word is a vowel

lab301pc35@lab301pc35:~/Desktop$ ./a.out

Enter a word to check whether it is a vowel or not:

y

The given word is not a vowel

lab301pc35@lab301pc35:~/Desktop$

\*/

**program2**

%{

char name[10];

%}

%%

[\n] {

printf("\nHi......%s.....Good Morning...\n",name);

return;

}

%%

main()

{

char opt;

do

{

printf("\n\nWhat is your name:");

scanf("%s", name) ;

yylex();

printf("\nPress any key to cont(y/Y)");

scanf("%c",&opt) ;

}while(opt=='y' || opt=='Y');

}

/\*

Output 2

lab301pc35@lab301pc35:~/Desktop$ lex goodmrning.l

lab301pc35@lab301pc35:~/Desktop$ cc lex.yy.c -ll

lab301pc35@lab301pc35:~/Desktop$ ./a.out

What is your name:Swapnil

Hi......Swapnil.....Good Morning...

Press any key to cont(y/Y)n

\*/

**Program3**

%{

void display(char\*);

%}

%%

[\n] {

char name[20];

printf("Enter your name = ");

scanf("%s",name);

display(&name[0]);

return;

}

%%

void display(char \*in)

{

printf("\n Hi...%s...GoodMorning....\n",in);

}

main()

{

printf("\n\n Press <<Enter>> key to show the message");

yylex();

}

/\*output

lab301pc35@lab301pc35:~/Desktop/SPCC$ ./lex flex3.l

lab301pc35@lab301pc35:~/Desktop/SPCC$ cc lex.yy.c -ll

lab301pc35@lab301pc35:~/Desktop/SPCC$ ./a.out

Press <<Enter>> key to show the message

Enter your name = Swapnil

Hi...Swapnil...GoodMorning....

\*/

**Program 4**

%{

void display(char[],int);

%}

%%

[a-zA-Z]+[\n] {

int flag=1;

display(yytext,flag);

return;

}

[0-9]+[\n] {

int flag=0;

display(yytext,flag);

return;

}

.+ {

int flag=-1;

display(yytext,flag);

return;

}

%%

void display(char string[],int flag)

{

if(flag==1)

printf("the string %s is a word \n",string);

if(flag==0)

printf("the string %s is a number \n",string);

if(flag==-1)

printf("the string %s is neither a word nor a digit \n",string);

yylex();

}

/\*output

lab301pc35@lab301pc35:~/Desktop/SPCC$ lex flex4.l

lab301pc35@lab301pc35:~/Desktop/SPCC$ cc lex.yy.c -ll

lab301pc35@lab301pc35:~/Desktop/SPCC$ ./a.out

822

the string 822

is a number

\*/

**Program 5**

%{

%}

%%

[a-z]+ {

printf("\nString contains only lower case letters : ");

ECHO;

return;

}

[a-zA-Z]+ {

printf("\nString contains both upper and lower case letters : ");

ECHO;

REJECT;

return;

}

.+ {

printf("\nIt contains mixed letters.");

ECHO;

return;

}

%%

main()

{

yylex();

}

/\* Output

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ lex 5.l

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ cc lex.yy.c -ll

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ ./a.out

Swapnil

String contains both upper and lower case letters : Swapnil

\*/

**Program 6**

%{

%}

%%

[a-z]+ {

printf("\nString contains only lowercase letters= ");

ECHO;

}

[a-zA-Z]+ {

printf("\nString contains only lowercase and uppercase letters= ");

ECHO;REJECT;

}

.+ {

printf("\nString contains mixed letters");

ECHO;

}

%%

main()

{

yylex();

}

/\*output

lab301pc35@lab301pc35:~/Desktop/SPCC$ lex flex6.l

lab301pc35@lab301pc35:~/Desktop/SPCC$ cc lex.yy.c -ll

lab301pc35@lab301pc35:~/Desktop/SPCC$ ./a.out

DrshacJ

String contains only lowercase and uppercase letters= DrshacJ

String contains mixed lettersDrshacJ

\*/

**Program 7**

%{

%}

%%

[a-z]+ {

printf("\nString contains only lower case letters : ");

ECHO;

}

[a-zA-Z]+ {

printf("\nString contains only upper case letters : ");

ECHO;

REJECT;

}

.+ {

printf("\nIt contains mixed letters:");

ECHO;

}

%%

main()

{

yylex();

}

/\*output

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ lex 7.l

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ cc lex.yy.c -ll

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ ./a.out

ChaitanyaRoygaga

String contains only upper case letters : ChaitanyaRoygaga

It contains mixed letters: ChaitanyaRoygaga

\*/

**Program 8**

%{

%}

%s SM SMBG

%%

# BEGIN(SM);

## BEGIN(SMBG);

[0-9]+ {

printf("\n it is a digit");

}

<SMBG>[A-Z]+ {printf("Given string contains big letters");}

<SM>. {printf("\nExiting from # start condition");

BEGIN(INITIAL);

}

<SM,SMBG>[a-z]+ {

printf("\n Given string contains small letters");}

<SMBG>.+ {printf("\n Exiting from ## start conditions");}

.+ {printf("\n N0 action to execute");}

%%

main()

{

printf("\nEnter # when you are expecting digits and small case letter strings");

printf("\nEnter # when you are expecting only big and small case letter strings");

yylex();

}

/\*output

lab301pc35@lab301pc35:~/Desktop/SPCC$ lex flex8.l

lab301pc35@lab301pc35:~/Desktop/SPCC$ cc lex.yy.c -ll

lab301pc35@lab301pc35:~/Desktop/SPCC$ ./a.out

Enter # when you are expecting digits and small case letter strings

Enter # when you are expecting only big and small case letter strings

#

amit

Given string contains small letters

##

amit

Given string contains small letters

##1244

Exiting from ## start conditions

1233

it is a digit

\*/

**Program 9**

%{

%}

%x SM SMBG

%%

# BEGIN(SM);

## BEGIN(SMBG);

[0-9]+ {

printf("\nIt's a digit ");

}

<SMBG>[A-Z]+ {

printf("\nGiven string containts capital letter(s) ");

}

<SM>.+ {

printf("\nExiting from #start condition:");

BEGIN(INITIAL);

}

<SM,SMBG>[a-z]+ {

printf("\n Given string contains small letter(s)");

}

<SMBG>.+ {

printf("\nExiting from ##start condition");

}

.+ {

printf("\nNo action to execute");

}

%%

main()

{

printf("\nEnter # when you are expecting only small letters");

printf("\nEnter ## only big and small letters");

yylex();

}

/\*

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ lex 9.l

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ cc lex.yy.c -ll

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ ./a.out

Enter # when you are expecting only small letters

Enter ## only big and small letters 9

It's a digit

N

No action to execute

##

V

Given string containts capital letter(s)

#

Exiting from ##start condition

v

Given string contains small letter(s)

\*/

**Program 10**

%{

%}

%%

[a-z]+ {

printf("\n it contains lower case letter=");

ECHO;

printf("\n Beginning of first yymore ");

yymore();

printf("\n End of first yymore ");

}

[A-Z]+ {

printf("\n it contains upper case letter=");

ECHO;

printf("\n Beginning of second yymore ");

yymore();

printf("\n End of second yymore ");

}

%%

main()

{

yylex();

}

/\*

output

lab301pc35@lab301pc35:~/Desktop/SPCC$ lex flex10.l

lab301pc35@lab301pc35:~/Desktop/SPCC$ cc lex.yy.c -ll

lab301pc35@lab301pc35:~/Desktop/SPCC$ ./a.out

hello WORLD

it contains lower case letter=hello

Beginning of first yymore

End of first yymore hello

it contains upper case letter=WORLD

Beginning of second yymore

End of second yymore WORLD

\*/

**Program 11**

%{

%}

%%

[a-z]+ {

printf("\nlower case = ");

ECHO;

printf("\nBeginning of first yymore");

yymore();

printf("\nEnd");

}

[A-Z]+ {

printf("\nupper case = ");

ECHO;

printf("\nBeginning of second yymore");

yymore();

printf("\nEnd");

}

%%

main()

{

yylex();

}

/\*

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ lex 11.l

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ cc lex.yy.c -ll

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ ./a.out

SURAJ amit

upper case = SURAJ

Beginning of second yymore

EndSURAJ

lower case = amit

Beginning of first yymore

Endamit

\*/

**Program 12**

%{

%}

%%

"un" {

printf("\nThe unput char=");

ECHO;

}

[a-z]+ {

printf("\nThe lower case token is=");

ECHO;

unput('n');

unput('u');

printf("\nThe token after unput=");

ECHO;

}

[a-zA-Z]+ {

printf("\nThe mixed token is=");

ECHO;

}

%%

main()

{

yylex();

}

/\*output

lab301pc35@lab301pc35:~/Desktop/SPCC$ lex flex12.l

lab301pc35@lab301pc35:~/Desktop/SPCC$ cc lex.yy.c -ll

lab301pc35@lab301pc35:~/Desktop/SPCC$ ./a.out

good DAY

The lower case token is=good

The token after unput=goun

The unput char=un

The mixed token is=DAY

\*/

**Program 13**

%{

%}

%%

[a-z]+ {

printf("\nString contains only lower case letters : ");

ECHO;

}

[A-Z]+ {

printf("\nString contains only upper case letters : ");

ECHO;

REJECT;

}

.+ {

printf("\nIt contains mixed letters:");

ECHO;

}

%%

main()

{

yylex();

}

/\*

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ lex 7.l

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ cc lex.yy.c -ll

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ ./a.out

SurajPunjabi

It contains mixed letters:SurajPunjabi

\*/

**Program 15**

%{

%}

%%

[a-z]+ {

printf("\nIt is a lower case letter : ");

ECHO;

printf("\nBeginning the yyterminate : ");

yyterminate();

printf("\nEnd of yyterminate : ");

}

[a-zA-Z]+ {

printf("\nMixed case token : ");

ECHO;

}

%%

main()

{

yylex();

}

/\*

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ lex 15.l

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ cc lex.yy.c -ll

pc25@lab301pc24-G41M-ES2L:~/Desktop/C12-2123$ ./a.out

Sudeep harshit

Mixed case token : Sudeep

It is a lower case letter : harshit

Beginning the yyterminate

\*/

**Program 16**

%{

#define YYLMAX 10

%}

%array yytext

%%

"un" {

printf("\n the unput character is = ");

ECHO;

unput('n');

printf("\nThe token after 1st unput=");

ECHO;

unput('u');

printf("\nThe token after 2nd unput=");

ECHO;

}

[a-zA-Z]+ {

printf("\n The mixed token is = ");

ECHO;

}

%%

main()

{

yylex();

}

**Program 18**

%{

%}

%%

[a-z]+ {

printf("\nIt's a lower case letter\n");

ECHO;

printf("\nBeginning of first yymore\n");

yymore();

printf("\nEnd of first yymore\n");

}

[A-Z]+ {

printf("\nIt's an upper case letter\n");

ECHO;

printf("\nBeginning of 2nd yymore\n");

yymore();

}

%%

main()

{

yylex();

}

\*\*\*\*\*OUTPUT\*\*\*\*\*

pc5@lab301pc5-G41M-ES2L:~/Desktop/C11-4,18$ lex prog18.l

pc5@lab301pc5-G41M-ES2L:~/Desktop/C11-4,18$ cc lex.yy.c -ll

pc5@lab301pc5-G41M-ES2L:~/Desktop/C11-4,18$ ./a.out

good MORNING

It's a lower case letter

good

Beginning of first yymore

End of first yymore

good

It's an upper case letter

MORNING

Beginning of 2nd yymore

MORNING

**Program 19**

%{

unsigned long charCount=0,wordCount=0,lineCount=0;

#undef yywrap

%}

WORD[^ \T\N]+

EOL \n

%%

{WORD} { wordCount++;

charCount=charCount+yyleng;

}

{EOL} {charCount++;

lineCount++;

}

. { charCount++;

}

%%

char\*\*fileList;

unsigned currentFile=0, noFiles;

unsigned long totalCC=0, totalWC=0, totalLC=0;

main(int argc, char\*\*argv)

{

FILE\*fpt;

fileList= argv+1;

noFiles= argc-1;

if(argc==2)

{

currentFile=1;

fpt=fopen(argv[1],"r");

if(!fpt)

{

fprint(stderr,"\nCould not open %s\n",argv[1]);

exit(1);

}

yyin=fpt;

}

if(argc>2)

yywrap();

yylex();

printf("%8lu %8lu %8lu %s\n",lineCount, wordCount, charCount, fileList[currentFile-1]);

totalCC=totalCC+charCount;

totalWC=totalWC+wordCount;

totalLC=totalLC+lineCount;

printf("%8lu%8lu%8lu\n",totalLC,totalWC,totalCC);

return 0;

}

yywrap()

{

FILE \*fp=NULL;

if((currentFile !=0) && (noFiles>1) && (currentFile < noFiles))

{

printf("%8lu %8lu %8lu %s\n",lineCount, wordCount, charCount, fileList[currentFile-1]);

totalCC=totalCC+charCount;

totalWC=totalWC+wordCount;

totalLC=totalLC+lineCount;

charCount=wordCount=lineCount=0;

fclose(yyin);

}

while(fileList[currentFile] !=NULL)

{

fp=fopen(fileList[currentFile++],"r");

if(fp !=NULL)

{

yyin=fp;

break;

}

fprint(stderr,"\nCould not open %s\n",fileList[currentFile-1]);

}

return(fp ? 0 : 1);

}

/\* OUTPUT

pc23@lab301pc23-G41M-ES2L:~/Desktop$ lex lex19.l

pc23@lab301pc23-G41M-ES2L:~/Desktop$ ./.a.out input1.txt input2.txt input3.txt

4 18 95 input1.txt

3 6 34 input2.txt

3 17 93 input2.txt

10 41 222

pc23@lab301pc23-G41M-ES2L:~/Desktop$#

**Program 20**

%{

#undef yymore

int a,b,c;

%}

%%

add {

printf("\nEnter any two numbers=");

scanf("%d%d",&a,&b);

yymore();

printf("the sum is=%d",c);

}

.+ {

printf("\n Enter 'add' to add two numbers ");

}

%%

main()

{

yylex();

}

yymore()

{

c=a+b;

}

/\*OUTPUT

Enter 'add' to add two numbers

add

Enter any two numbers=7

3

the sum is=10

\*/

**Program 21**

%{

int flag=0,ln=1;

%}

%%

"(" { flag++;

}

")" {flag--;

}

[\n] {

if(flag==0)

printf("\n\nStatement in the line %d has no parenthesis missing \n ",ln );

else

printf("\n\n Error in the line %d",ln);

if(flag!=0)

printf("\n\nIt has missed ( or extra ) ");

else if(flag>0)

printf("\n\nIt has missed ) or extra ( ");

flag=0;

ln++;

}

.+ {

}

%%

main()

{

char filename[20];

printf("\nEnter file name\n");

scanf("%s",filename);

yyin=fopen(filename,"r+");

yylex();

}

OUTPUT:

Enter file name

file112

Statement in the line 1 has no parenthesis missing

It has missed ) or extra (

Statement in the line 3 has no parenthesis missing

FILE112:

abc

(abc

(abc)

**Program 22**

%{

float op1=0,op2=0,ans=0;

char oper;

int f1=0,f2=0;

void eval();

%}

DIGIT[0-9]

NUM{DIGIT}+(/,{DIGIT}+)?

OP[+/-\*]

%%

{NUM} {

if(f1==-1){

op1=atof(yytext);

f1=1;

}

else if(f2==-1)

{

op2=atof(yytext);

f2=1;

}

if((f1==1)&&(f2==1))

eval();

}

{OP} {

oper=(char)\*yytext;

f2=-1;

}

[\n]{

if((f1==1)&&(f2==1))

eval();

f1=0;

f2=0;

}

[\t]{

}

.{printf("");

}

%%

main(){

yylex();

}

void eval()

{

f1=0;

f2=0;

switch(oper){

case '+':ans=op1+op2;

break;

case '-':ans=op1-op2;

break;

case '\*':ans=op1\*op2;

break;

case '/':if(op2==0)

{

printf("divide by zero error\n");

return;

}

else{

ans=op1/op2;

}

break;

default : printf("program not supporting operator %c\n",oper);

break;

}

printf("Answer is:%lf",ans);

}

OUTPUT:

pc22@lab301pc22-G41M-ES2L:~/Desktop$ lex lex22.l

pc22@lab301pc22-G41M-ES2L:~/Desktop$ cc lex.yy.c -ll

pc22@lab301pc22-G41M-ES2L:~/Desktop$ ./a.out

2+5

Answer is:7.000000

5\*2

Answer is:10.000000

**Program 23**

%{

%}

LANGUAGE"10"

%%

{LANGUAGE}+ {

printf("\n it's a positive closure");

return;

}

.+ {

printf("\n it is not a positive closure");

return;

}

%%

main()

{

yylex();

}

/\*

pc25@lab301pc24-G41M-ES2L:~/Desktop$ lex 23.l

pc25@lab301pc24-G41M-ES2L:~/Desktop$ cc lex.yy.c -ll

pc25@lab301pc24-G41M-ES2L:~/Desktop$ ./a.out

1010

it's a positive closure

pc25@lab301pc24-G41M-ES2L:~/Desktop$ ./a.out

10101

it is not a positive closure

\*/