```
%{
    int newLine = 0;
    int space = 0;
    int c = 0;
    int tabs = 0;
    int words = 0;
%}
%%
[ ] {space++;}
[\n] {newLine++;}
[\t] {tabs++;}
[^\n\t ]+ {words++;c += yyleng;}
%%
int yywrap() {return 1;}
int main(){
    printf("Enter the input: ");
    yylex();
    printf("No. of chars: %d\n",c);
    printf("No. of spaces: %d\n",space);
    printf("No. of new lines: %d\n",newLine);
    printf("No. of words: %d\n",words);
    printf("No. of tabs: %d\n",tabs);
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques1.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the input: Hello how              are     you
I am    doing fine
No. of chars: 26
No. of spaces: 8
No. of new lines: 2
No. of words: 8
No. of tabs: 3
```

```
%{
   #include<stdio.h>
   #include<string.h>
%}
%%
"/*"[^*]*"*/";
"//"[^\n]*   ;
. {
   fprintf(yyout,"%s",yytext);
}
%%
int yywrap() { return 1; }
int main() {
   extern FILE *yyin, *yyout;
   yyin = fopen("input.c", "r");
   yyout = fopen("out.c", "w");
   yylex();
   fclose(yyin);
   fclose(yyout);
   return 0;
}
```

INPUT

```c
#include<stdio.h>
int main(){
    /*Hello world*/
    //Hello World
    printf("Hello World");
    return 0;
}
```

OUTPUT

```c
#include<stdio.h>
int main(){


    printf("Hello World");
    return 0;
}
```

```
%{
   #include<stdio.h>
   int x,y,res;
%}
%%
[0-9 ]+"+"[ 0-9]+ {
   int n = yyleng;
   int x = 0;
   int y = 0;
   int i = 0;
   for(;yytext[i] != '+';i++){
      if(yytext[i] >= '0' && yytext[i] <= '9'){
         x = x*10 + yytext[i]-'0';
      }
   }
   for(;i<n;i++){
      if(yytext[i] >= '0' && yytext[i] <= '9'){
         y = y*10 + yytext[i]-'0';
      }
   }
   printf("%d",x+y);
}
[0-9]+"-"[0-9]+ {
   int n = yyleng;
   int x = 0;
   int y = 0;
   int i = 0;
   for(;yytext[i] != '-';i++){
```

```
        if(yytext[i] >= '0' && yytext[i] <= '9'){
            x = x*10 + yytext[i]-'0';
        }
    }
    for(;i<n;i++){
        if(yytext[i] >= '0' && yytext[i] <= '9'){
            y = y*10 + yytext[i]-'0';
        }
    }
    printf("%d",x-y);
}
[0-9]+"*"[0-9]+ {
    int n = yyleng;
    int x = 0;
    int y = 0;
    int i = 0;
    for(;yytext[i] != '*';i++){
        if(yytext[i] >= '0' && yytext[i] <= '9'){
            x = x*10 + yytext[i]-'0';
        }
    }
    for(;i<n;i++){
        if(yytext[i] >= '0' && yytext[i] <= '9'){
            y = y*10 + yytext[i]-'0';
        }
    }
    printf("%d",x*y);
}
[0-9]+"/"[1-9]+ {
```

```
    int n = yyleng;
    int x = 0;
    int y = 0;
    int i = 0;
    for(;yytext[i] != '/';i++){
        if(yytext[i] >= '0' && yytext[i] <= '9'){
            x = x*10 + yytext[i]-'0';
        }
    }
    for(;i<n;i++){
        if(yytext[i] >= '0' && yytext[i] <= '9'){
            y = y*10 + yytext[i]-'0';
        }
    }
    printf("%d",x/y);
}
%%
int yywrap(){
    return 1;
}
int main(){
    printf("Enter the expression to evaluate:\n");
    yylex();
    return 0;
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques3.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the expression to evaluate:
6+3
9
6-3
3
6*3
18
6/3
2
```

```
%{
   #include<stdio.h>
   #include<stdlib.h>
%}
%%
"<"[^>]*">" {printf("%s\n",yytext);}
. ;
%%
int yywrap(){
   return 1;
}
int main(){
   extern FILE *yyin;
   yyin = fopen("htmlInput.html","r");
   yylex();
   fclose(yyin);
}
```

INPUT

```
<html>
    <head>

        <title>Document</title>
    </head>
    <body>
        <div>Hello How are you</div>
    </body>
</html>
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques4.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
<html>

<head>


<title>
</title>

</head>

<body>

<div>
</div>

</body>

</html>
```

```
%{
   #include<stdio.h>
%}
%%
[0-9]+ {printf("%s is an Integer\n",yytext);}
[0-9]+"."[0-9]* {printf("%s is Float\n",yytext);}
%%
int yywrap(){return 1;}
int main(){
   printf("Enter the input: ");
   yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques5.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the input: 123
123 is an Integer

123.45
123.45 is Float

0.456
0.456 is Float

123321
123321 is an Integer
```

```
%{
   #include<stdio.h>
%}
%%
[a-zA-Z][a-zA-Z0-9]* {printf("%s is an identifier\n",yytext);}
.* {printf("%s is not an identifier\n",yytext);}
%%
int yywrap(){return 1;}
int main(){
printf("Enter identifier\n");
yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques6.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter identifier
abc
abc is an identifier

1avc
1avc is not an identifier

abc12
abc12 is an identifier

Aab12
Aab12 is an identifier

aAbc12
aAbc12 is an identifier
```

```
%{
   #include<stdio.h>
%}
%%
[0-9]+ {printf("%s is an Integer\n",yytext);}
[0-9]*"."[0-9]+ {printf("%s is a Float\n",yytext);}
"if"|"else"|"for"|"while"|"int"|"float" {printf("%s is a Keyword\n",yytext);}
"+"|"-"|"*"|"/"|"="|"<"|">"|"++"|"--" {printf("%s is an Operator\n",yytext);}
","|";" {printf("%s is A Seperator\n",yytext);}
[a-zA-Z][a-zA-Z0-9]* {printf("%s is an Identifier\n",yytext);}
[ ] {printf("");}
. {printf("Invalid Input\n");}
%%
int yywrap(){return 1;}
int main(){
   printf("Enter the input: \n");
   yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques7.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the input:
int a,b,c;
int is a Keyword
a is an Identifier
, is A Seperator
b is an Identifier
, is A Seperator
c is an Identifier
; is A Seperator
```

```
%{
    #include <stdio.h>
    #include <stdlib.h>
    #include <string.h>
    int newLine = 0;
    int space = 0;
    int c = 0;
    int words = 0;
%}
%%
[ ] {space++;}
[\n] {newLine++;}
[^\n\t ]+ {words++;c += yyleng;}
%%
int yywrap() {
    return 1;
}
int main(){
    extern FILE *yyin,*yyout;
    yyin=fopen("input.txt","r");
    yyout=fopen("output.txt","w");
    yylex();
```

```
    fprintf(yyout,"No. of chars: %d\n",c);
    fprintf(yyout,"No. of spaces: %d\n",space);
    fprintf(yyout,"No. of new lines: %d\n",newLine);
    fprintf(yyout,"No. of words: %d\n",words);
    fclose(yyin);
    fclose(yyout);
    return 0;
}
```

INPUT

input.txt

```
1   Hellow     how are   you
2   I am    doing fine
```

OUTPUT

output.txt

```
1   No. of chars: 27
2   No. of spaces: 15
3   No. of new lines: 2
4   No. of words: 8
5
```

```
%{
   #include<stdio.h>
%}
%%
[ ]+ {
   fprintf(yyout," ");
}
. {
   fprintf(yyout,"%s",yytext);
}
%%
int yywrap(){
   return 1;
}
int main(){
   extern FILE *yyin,*yyout;
   yyin = fopen("input.txt","r");
   yyout = fopen("output.txt","w");
   yylex();
   fclose(yyin);
   fclose(yyout);
}
```

INPUT

input.txt

```
1   Hellow     how are   you
2   I am    doing fine
```

OUTPUT

output.txt

```
1   Hellow how are you
2   I am doing fine
```

```
%{
   #include<stdio.h>
   #include<string.h>
%}
%%
"/*"[^*]*"*/"   ;
"//"[^\n]*      ;
.               { fprintf(yyout,"%s",yytext); }
%%
int yywrap() { return 1; }
int main() {
   extern FILE *yyin, *yyout;
   yyin = stdin;
   yyout = fopen("out.c", "w");
   yylex();
   fclose(yyin);
   fclose(yyout);
   return 0;
}
```

INPUT

```
[kartick@kartick-11118 TermWork]$ lex ques10.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
#include<stdio.h>
int main(){
    /*Hello world*/
    //Hello World
    printf("Hello World");
    return 0;
}
```

OUPTUT

out.c > ...

```c
#include<stdio.h>
int main(){


    printf("Hello World");
    return 0;
}
```

```
%{
   #include<stdio.h>
   #include<stdlib.h>
%}
%%
"<"[^>]*">"|" " {fprintf(yyout,"%s",yytext);}
. ;
%%
int yywrap(){
   return 1;
}
int main(){
   extern FILE *yyin,*yyout;
   yyin = fopen("htmlFile.html","r");
   yyout = fopen("htmlTags.txt","w");
   yylex();
   fclose(yyin);
   fclose(yyout);
}
```

INPUT

```
<html>
    <head>

        <title>Document</title>
    </head>
    <body>
        <div>Hello How are you</div>
    </body>
</html>
```

OUTPUT

htmlTags.txt

```
1   <html>
2       <head>
3
4           <title></title>
5       </head>
6       <body>
7           <div>   </div>
8       </body>
9   </html>
```

```
%{
   #include<stdio.h>
   #include<stdlib.h>
%}
%%
[0-9]+ {fprintf(yyout,"%s is an Integer\n",yytext);}
[0-9]*"."[0-9]+ {fprintf(yyout,"%s is a Float\n",yytext);}
"if"|"else"|"for"|"while"|"int"|"float" {fprintf(yyout,"%s is a Keyword\n",yytext);}
"+"|"-"|"*"|"/"|"=="|"="|"<"|">"|"++"|"--" {fprintf(yyout,"%s is an Operator\n",yytext);}
","|";" {fprintf(yyout,"%s is A Seperator\n",yytext);}
[a-zA-Z][a-zA-Z0-9]* {fprintf(yyout,"%s is an Identifier\n",yytext);}
[ ] {printf("");}
. ;
%%
int yywrap(){return 1;}
int main(){
   extern FILE *yyin,*yyout;
   yyin = fopen("token.c","r");
   yyout = fopen("tokens.txt","w");
   yylex();
   fclose(yyin);
   fclose(yyout);
}
```

INPUT

token.c > ...

```c
int p=1,d=0,r=4;
float m=0.0, n=200.0;
while (p <= 3)
{ if(d==0)
{ m= m+n*r+4.5; d++; }
else
{ r++; m=m+r+1000.0; }
p++; }
```

OUTPUT

tokens.txt

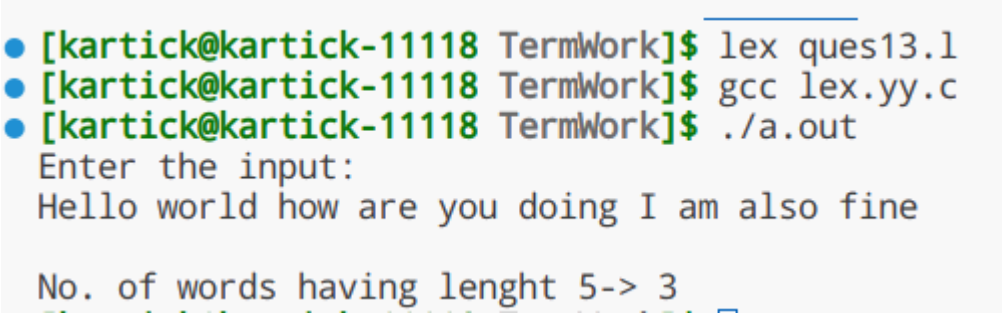
```
int is a Keyword
p is an Identifier
= is an Operator
1 is an Integer
, is A Seperator
d is an Identifier
= is an Operator
0 is an Integer
, is A Seperator
r is an Identifier
= is an Operator
4 is an Integer
; is A Seperator

float is a Keyword
m is an Identifier
= is an Operator
0.0 is a Float
, is A Seperator
n is an Identifier
= is an Operator
200.0 is a Float
; is A Seperator

while is a Keyword
p is an Identifier
< is an Operator
= is an Operator
3 is an Integer
```

```
%{
   #include<stdio.h>
   int words = 0;
%}
%%
[^\t\n ]+ {
   int c = yyleng;
   if(c == 5){
      words++;
   }
}
%%
int yywrap(){
   return 1;
}
int main(){
   printf("Enter the input: \n");
   yylex();
   printf("No. of words having lenght 5-> %d\n",words);
}
```

OUTPUT


[kartick@kartick-11118 TermWork]$ lex ques13.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the input:
Hello world how are you doing I am also fine
No. of words having lenght 5-> 3

```
%{
   #include<stdio.h>
   int v = 0;
   int c = 0;
%}
%%
[aeiouAEIOU] {
   v++;
   printf("Vowel-> %s\n",yytext);
}
[^ aeiouAEIOU] {
   c++;
   printf("Consonant %s\n",yytext);
}
%%
int yywrap(){
   return 1;
}
int main(){
   printf("Enter the input: \n");
   yylex();
   printf("Total Vowels -> %d\n",v);
   printf("Total Consonants -> %d\n",c);
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques14.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the input:
Hello world how are you
Consonant H
Vowel-> e
Consonant l
Consonant l
Vowel-> o
 Consonant w
Vowel-> o
Consonant r
Consonant l
Consonant d
 Consonant h
Vowel-> o
Consonant w
 Vowel-> a
Consonant r
Vowel-> e
 Consonant y
Vowel-> o
Vowel-> u
```

```
%{
   #include<stdio.h>
   #include<string.h>
%}
%%
[0-9]* {
   int n = yyleng;
   int flag = 1;
   for(int i = 0;i <= n/2;i++){
      if(yytext[i] != yytext[n-i-1]){
         flag = 0;
         break;
      }
   }
   if(flag){
      printf("%s is a Pallindrome\n",yytext);
   }
   else{
      printf("%s is not a Pallindrome\n",yytext);
   }
}
. {
   printf("Please enter number\n");
}
%%
```

```
int yywrap(){
    return 1;
}
int main(){
    printf("Enter the Input: \n");
    yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques15.l
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the Input:
12321
12321 is a Pallindrome

123123
123123 is not a Pallindrome

121
121 is a Pallindrome
```

```
%{
   #include<stdio.h>
   #include<string.h>
%}
%%
[a-zA-Z0-9 ]* {
   int n = yyleng;
   int flag = 1;
   for(int i = 0;i <= n/2;i++){
      if(yytext[i] != yytext[n-i-1]){
         flag = 0;
         break;
      }
   }
   if(flag)
      printf("%s is a Pallindrome\n",yytext);
   else
      printf("%s is not a Pallindrome\n",yytext);
}
%%
int yywrap(){
   return 1;
}
int main(){
   printf("Enter the Input: \n");
   yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques16.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the Input:
ABCAB
ABCAB is not a Pallindrome

ABCBA
ABCBA is a Pallindrome

ABCABC
ABCABC is not a Pallindrome
```

```
%{
   #include<stdio.h>
%}
%%
[^@]+"@"["gmail"|"hotmail"]+"."["com"|"org"]+ {
   printf("%s is a valid email\n",yytext);
}
[^\n]+ {
   printf("%s is an Invalid Email\n",yytext);
}
%%
int yywrap(){
   return 1;
}
int main(){
   printf("Enter the Input: \n");
   yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques17.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the Input:
abc123@gmail.com
abc123@gmail.com is a valid email
abc12@xyz.co

abc12@xyz.co is an Invalid Email
```

```
%{
   #include<stdio.h>
   #include<string.h>
   int minLen = 1e9;
   char word[100];
%}
%%
[^ \t\n]* {
   if(yyleng < minLen){
      minLen = yyleng;
      strcpy(word,yytext);
   }
}
%%
int yywrap(){
   return 1;
}
int main(){
   printf("Enter the Input: \n");
   yylex();
   printf("Shortest Word-> %s\n",word);
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques18.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the Input:
Hello world how are you do

Shortest Word-> do
```

```
%{
   #include<stdio.h>
   #include<string.h>
%}
%%
[a-zA-Z0-9 ]* {
   int n = yyleng;
   int org = 0;
   for(int i = 0;i < n;i++){
      org = org*10 + (yytext[i]-'0');
   }
   int temp = org*org;
   int check = 0;
   while(temp){
      int rem = temp%10;
      check += rem;
      temp /= 10;
   }
   if(check == org){
      printf("%s is a Neon Number\n",yytext);
   }
   else{
      printf("%s is not a Neon Number\n",yytext);
   }
}
%%
```

```
int yywrap(){
    return 1;
}
int main(){
    printf("Enter the Input: \n");
    yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques19.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the Input:
9
9 is a Neon Number

12
12 is not a Neon Number
```

```
%{
   #include<stdio.h>
   #include<string.h>
%}
%%
[a-zA-Z0-9 ]* {
   int n = yyleng;
   int org = 0;
   for(int i = 0;i < n;i++){
      org = org*10 + (yytext[i]-'0');
   }
   int temp = org*org;
   if(org%10 == temp%10){
      printf("%s is an Automorphic Number\n",yytext);
   }
   else{
      printf("%s is not an Automorphic Number\n",yytext);
   }
}
%%
int yywrap(){
   return 1;
}
int main(){
   printf("Enter the Input: \n");
   yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques20.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the Input:
11
11 is an Automorphic Number

12
12 is not an Automorphic Number

17
17 is not an Automorphic Number

16
16 is an Automorphic Number
```

```
%{
   #include<stdio.h>
%}
%s A B C
%%
<INITIAL>0 BEGIN B;
<INITIAL>1 BEGIN A;
<INITIAL>\n BEGIN INITIAL; {printf("Accepted\n");}
<A>0 BEGIN C;
<A>1 BEGIN INITIAL;
<A>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<B>1 BEGIN C;
<B>0 BEGIN INITIAL;
<B>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<C>0 BEGIN A;
<C>1 BEGIN B;
<C>\n BEGIN INITIAL; {printf("Not Accepted\n");}
%%
int yywrap(){return 1;}
int main(){
   printf("Enter the input: ");
   yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques21.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the input: 1100
Accepted
101
Not Accepted
1001
Accepted
100010001001
Accepted
10000001
Accepted
1000001
Not Accepted
```

```
%{
   #include<stdio.h>
%}
%s A B C D E F G
%%
<INITIAL>0 BEGIN A;
<INITIAL>1 BEGIN D;
<INITIAL>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<A>0 BEGIN D;
<A>1 BEGIN B;
<A>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<B>1 BEGIN C;
<B>0 BEGIN D;
<B>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<C>0 BEGIN E;
<C>1 BEGIN C;
<C>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<D>0 BEGIN D;
<D>1 BEGIN D;
<D>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<E>0 BEGIN F;
<E>1 BEGIN G;
<E>\n BEGIN INITIAL; {printf("Accepted\n");}
<F>0 BEGIN F;
<F>1 BEGIN G;
<F>\n BEGIN INITIAL; {printf("Not Accepted\n");}
```

```
<G>0 BEGIN F;
<G>1 BEGIN C;
<G>\n BEGIN INITIAL; {printf("Not Accepted\n");}
%%
int yywrap(){return 1;}
int main(){
    printf("Enter the input: ");
    yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques22.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the input: 0110
Accepted
011000110
Accepted
1101110
Not Accepted
011001
Not Accepted
011001100110
Accepted
```

```
%{
   #include<stdio.h>
%}
%s A B C
%%
<INITIAL>[a-zA-Z] BEGIN A;
<INITIAL>[0-9] BEGIN B;
<A>[a-zA-Z0-9] BEGIN A;
<A>\n BEGIN INITIAL; {printf("Identifier\n");}
<B>[0-9] BEGIN B;
<B>[.] BEGIN C;
<B>\n BEGIN INITIAL; {printf("Integer\n");}
<C>[0-9] BEGIN C;
<C>\n BEGIN INITIAL; {printf("Float\n");}
%%
int yywrap(){return 1;}
int main(){
   printf("Enter the input: ");
   yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques23.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the input: 123
Integer
ABC
Identifier
ABC123
Identifier
123.45
Float
```

```
%{
   #include<stdio.h>
%}
%s A B C
%%
<INITIAL>a BEGIN B;
<INITIAL>b BEGIN A;
<INITIAL>\n BEGIN INITIAL; {printf("Accepted\n");}
<A>a BEGIN C;
<A>b BEGIN INITIAL;
<A>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<B>b BEGIN C;
<B>a BEGIN INITIAL;
<B>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<C>a BEGIN A;
<C>b BEGIN B;
<C>\n BEGIN INITIAL; {printf("Not Accepted\n");}
%%
int yywrap(){return 1;}
int main(){
   printf("Enter the input: ");
   yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques24.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the input: aabb
Accepted
abb
Not Accepted
aaaabbabbabb
Accepted
abbbbabbba
Not Accepted
```

```
%{
   #include<stdio.h>
%}
%s A B C D E F G
%%
<INITIAL>a BEGIN A;
<INITIAL>b BEGIN INITIAL;
<INITIAL>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<A>a BEGIN B;
<A>b BEGIN C;
<A>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<B>a BEGIN D;
<B>b BEGIN E;
<B>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<C>a BEGIN F;
<C>b BEGIN G;
<C>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<D>a BEGIN D;
<D>b BEGIN E;
<D>\n BEGIN INITIAL; {printf("Accepted\n");}
<E>a BEGIN F;
<E>b BEGIN G;
<E>\n BEGIN INITIAL; {printf("Accepted\n");}
<F>a BEGIN B;
<F>b BEGIN C;
<F>\n BEGIN INITIAL; {printf("Accepted\n");}
```

```
<G>a BEGIN A;
<G>b BEGIN INITIAL;
<G>\n BEGIN INITIAL; {printf("Accepted\n");}
%%
int yywrap(){
   return 1;
}
int main(){
   printf("Enter the Input\n");
   yylex();
   return 0;
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques28.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the Input
abbbabb
Accepted
abbabbbbb
Not Accepted
abbab
Not Accepted
abbaaa
Accepted
```

```
%{
   #include<stdio.h>
%}
%s A B C D
%%
<INITIAL>0 BEGIN A;
<INITIAL>1 BEGIN C;
<INITIAL>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<A>0 BEGIN A;
<A>1 BEGIN B;
<A>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<B>1 BEGIN B;
<B>0 BEGIN A;
<B>\n BEGIN INITIAL; {printf("Accepted\n");}
<C>0 BEGIN D;
<C>1 BEGIN C;
<C>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<D>0 BEGIN D;
<D>1 BEGIN C;
<D>\n BEGIN INITIAL; {printf("Accepted\n");}
%%
int yywrap(){return 1;}
int main(){
   printf("Enter the input: ");
   yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques29.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the input: 1000100101
Not Accepted
001000101
Accepted
0110010010
Not Accepted
111001000010
Accepted
```

```
%{
   #include<stdio.h>
%}
%s A B C D E
%%
<INITIAL>a BEGIN A;
<INITIAL>b BEGIN D;
<INITIAL>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<A>a BEGIN D;
<A>b BEGIN B;
<A>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<B>b BEGIN B;
<B>a BEGIN C;
<B>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<C>a BEGIN E;
<C>b BEGIN B;
<C>\n BEGIN INITIAL; {printf("Accepted\n");}
<D>a BEGIN D;
<D>b BEGIN D;
<D>\n BEGIN INITIAL; {printf("Not Accepted\n");}
<E>a BEGIN E;
<E>b BEGIN B;
<E>\n BEGIN INITIAL; {printf("Not Accepted\n");}
%%
```

```
int yywrap(){return 1;}
int main(){
    printf("Enter the input: ");
    yylex();
}
```

OUTPUT

```
[kartick@kartick-11118 TermWork]$ lex ques30.l
[kartick@kartick-11118 TermWork]$ gcc lex.yy.c
[kartick@kartick-11118 TermWork]$ ./a.out
Enter the input: aba
Accepted
abba
Accepted
abbbababbaa
Not Accepted
abbabbababa
Accepted
```