

EXCERSISE

1.To count and print words that has atleast two vowels.

Code :

```
1  %option noyywrap
2  %{
3      #include<stdio.h>
4      int vc=0,i,c=0;
5  %}
6
7  %%
8  [a-zA-Z]+ {
9      vc=0;
10     for(i=0;i<yyleng;i++)
11         switch(yytext[i]) {
12             case 'a':
13             case 'e':
14             case 'i':
15             case 'o':
16             case 'u':
17             case 'A':
18             case 'E':
19             case 'I':
20             case 'O':
21             case 'U': vc++;
22                     break;
23         }
24     if(vc>=2) {
25         printf("\n%s",yytext);
26         c++;
27     }
28 }
29 %%
30 int main()
31 {
32     yylex();
33     printf("\nNumber of such words: %d",c);
34     return 0;
35 }
```

Output :

```
D:\STUDIES\SEM 5\CD\LAB\CODE\LAB 2>lex vowels.l
D:\STUDIES\SEM 5\CD\LAB\CODE\LAB 2>gcc lex.yy.c
D:\STUDIES\SEM 5\CD\LAB\CODE\LAB 2>a.exe
I am studying CSE in College of Engineering Guindy

studying
College
Engineering
Guindy

Number of such words: 4
D:\STUDIES\SEM 5\CD\LAB\CODE\LAB 2>
```

2. Identify the keywords and convert it into Uppercase.

Code :

```
1 %option noyywrap
2 %{
3     #include<stdio.h>
4     #include<ctype.h>
5     #include<string.h>
6     #define MAX 512
7 %}
8
9 key if|then|else|for|while|int|float|double|main|printf|scanf|define|for|return|#include|yylex
10 alphanum [a-zA-Z0-9 ]
11 %%
12 {key} {
13     int i=0;
14     for(i=0; i<yyleng; i++)
15         printf("%c",toupper(yytext[i]));
16 }
17 %%
18
19 int main()
20 {
21     yylex();
22     return 0;
23 }
```

Output :

```
D:\STUDIES\SEM 5\CD\LAB\CODE\LAB 2>lex upper.l
D:\STUDIES\SEM 5\CD\LAB\CODE\LAB 2>gcc lex.yy.c
D:\STUDIES\SEM 5\CD\LAB\CODE\LAB 2>a.exe <upper.l
%option noyywrap
%{
    #INCLUDE<stdio.h>
    #INCLUDE<ctype.h>
    #INCLUDE<string.h>
    #DEFINE MAX 512
%}

key IF|THEN|ELSE|FOR|WHILE|INT|FLOAT|DOUBLE|MAIN|PRINTF|SCANF|DEFINE|FOR|RETURN|#INCLUDE|YYLEX
alphanum [a-zA-Z0-9 ]
%%
{key} {
    INT i=0;
    FOR(i=0; i<yyleng; i++)
        PRINTF("%c",toupper(yytext[i]));
}
%%

INT MAIN()
{
    YYLEX();
    RETURN 0;
}
D:\STUDIES\SEM 5\CD\LAB\CODE\LAB 2>_
```

3.To count and print words that are in mixed case.

Code :

```
1 %option noyywrap
2 %{
3     #include<stdio.h>
4     #include<string.h>
5     #define SIZE 256
6     char msg[SIZE][SIZE];
7     int count=0;
8 %}
9
10 lower [a-z]
11 upper [A-Z]
12 alpha[a-zA-Z]
13 %%
14 ({lower}{alpha}*{upper}{alpha}*)|({upper}{alpha}*{lower}{alpha}*) {
15     strcpy(msg[count],yytext);
16     printf("%s",yytext);
17     count++;
18 }
19
20 %%
21 int main()
22 {
23     yylex();
24     printf("There were %d number of mixed case words. They are: \n", count);
25     int i=0;
26     for(i=0; i<count; i++){
27         printf("%d. %s\n",i+1, msg[i]);
28     }
29     return 0;
30 }
```

Output :

```
D:\STUDIES\SEM 5\CD\LAB\CODE\LAB 2>lex mixed.l
D:\STUDIES\SEM 5\CD\LAB\CODE\LAB 2>gcc lex.yy.c
D:\STUDIES\SEM 5\CD\LAB\CODE\LAB 2>a.exe
Hello wOrLd CODE in C PrOgRaM
There were 3 number of mixed case words. They are:
1. Hello
2. wOrLd
3. PrOgRaM
D:\STUDIES\SEM 5\CD\LAB\CODE\LAB 2>
```