9.Write a LEX program to find the length of the longest word.
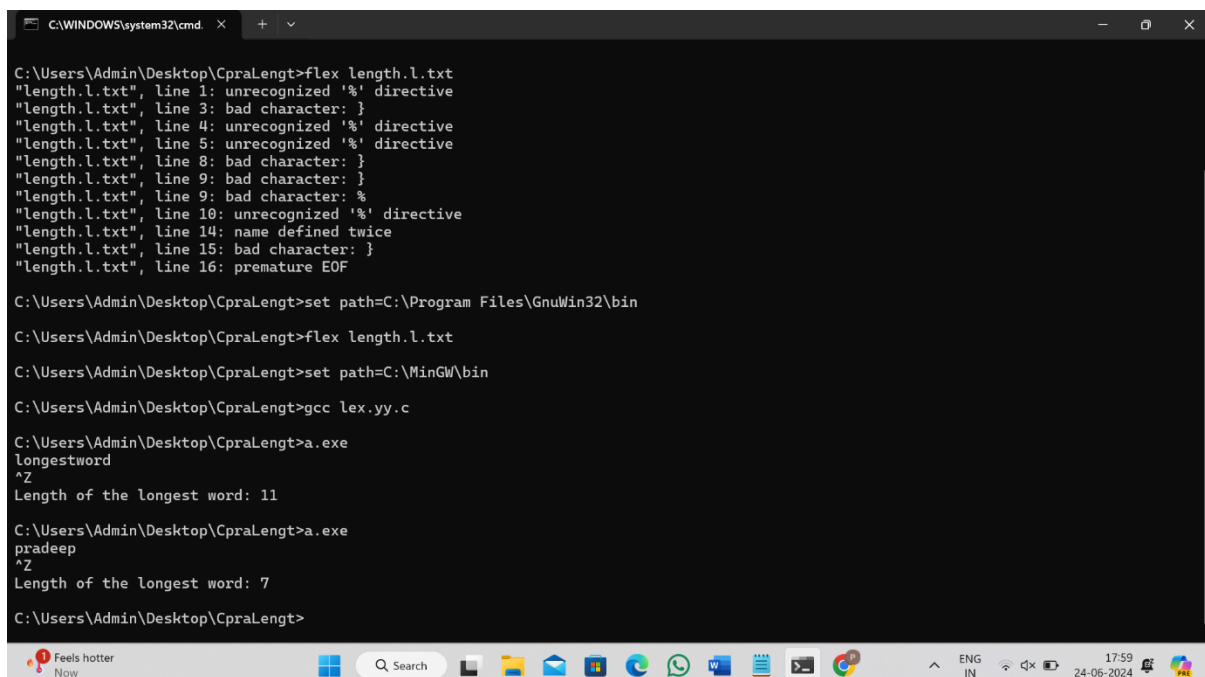
PROGRAM:

% {

int counter = 0; %

}

%

% [a - zA - Z] + {

if (yyleng > counter) {

counter = yyleng;

}

} %

%

main() {

yylex();

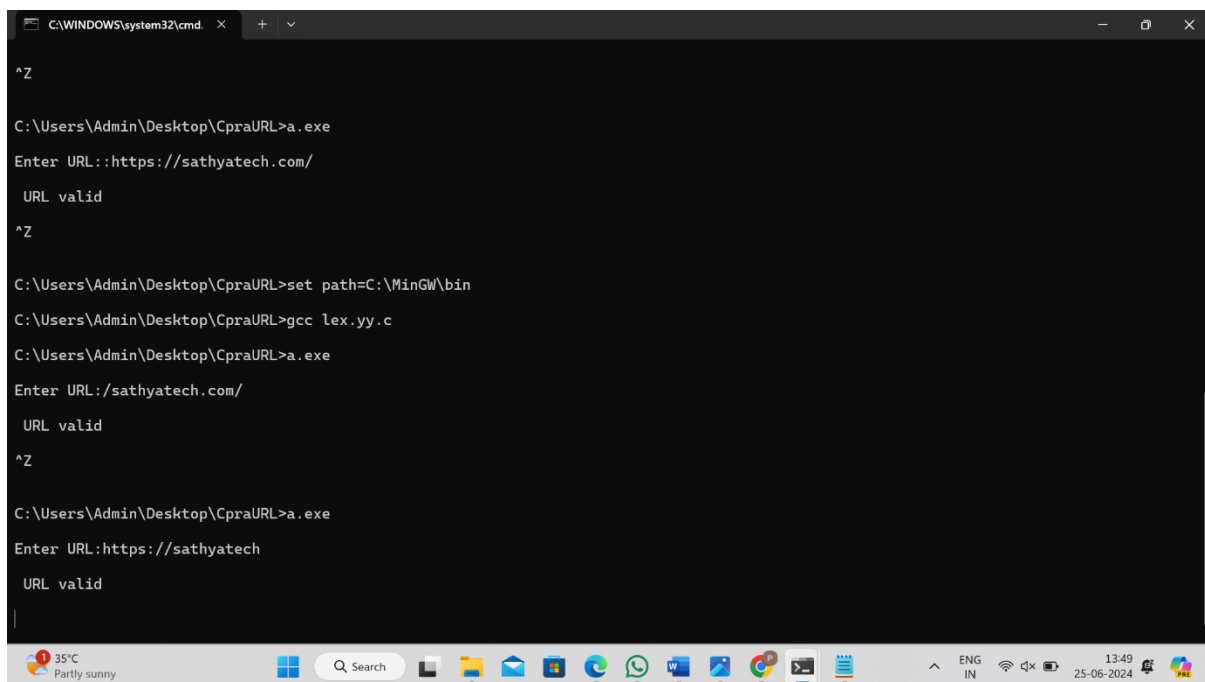printf("largest: %d", counter);

printf("\n");

}

Output:

Program:

```
%{
%}
%%
[https://]+[www.]+[a-z]+".com" {printf("\n valid url \n");}
.+ {printf("\n invalid \n");}
%%
int yywrap()
{
return 1;
}
int main()
{
printf("\n enter the url:");
yylex();
}
```

Output:

Program:

```
%{

%}

%%

[0-9][0-9]\/[0-1][0-9]\/[1-2][0-9]{3} { printf("valid");}

.+ { printf("invalid");}

%%

int yywrap(){}

int main()

{

yylex();

}
```

Output:

12.Write LEX code to count the frequency of the given word in a file

Program:

```
%{
#include<stdio.h>
#include<string.h>
char word [] = "kiran";
int count = 0;
%}
%%
[a-zA-Z]+    { if(strcmp(yytext, word)==0)
            count++; }
. ;
%%
int yywrap()
{
   return 1;
}
int main()
{
    extern FILE *yyin, *yyout;
    yyin=fopen("input.txt", "r");
    yylex();
    printf("%d", count);
}
```

Ouput:


```
C:\Users\Admin\Desktop\Cprafreq>set path=C:\Program Fi
C:\Users\Admin\Desktop\Cprafreq>flex freq.l.txt
C:\Users\Admin\Desktop\Cprafreq>set path=C:\MinGW\bin
C:\Users\Admin\Desktop\Cprafreq>gcc lex.yy.c
C:\Users\Admin\Desktop\Cprafreq>a.exe




4
```

Program:

```
%{
#include<stdio.h>
#include<string.h>
char replace_with [] = "Best";
char replace [] ="a";
%}
%%
[a-zA-Z]+    { if(strcmp(yytext, replace)==0)
             fprintf(yyout, "%s", replace_with);
          else
             fprintf(yyout, "%s", yytext);}
.         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();
}
```
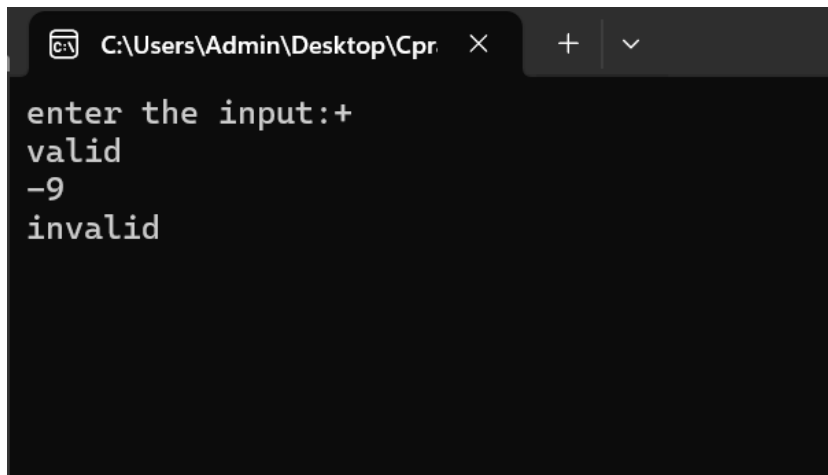
Output:

File   Edit   View

```
This is Best sample input file.
A quick brown fox jumps over Best lazy dog.
Another sentence with Best single 'Best' character.
This text will show how Best single character 'Best' is replaced.
```

Program:

```
%{
#include<stdio.h>
float op1=6,op2=7;
%}
%%
"+" {printf("sum =%lf",op1+op2);}
"-" {printf("diff=%lf",op1-op2);}
"*" {printf("mul=%lf",op1*op2);}
"/" {printf("div=%lf",op1/op2);}
. {printf("enter proper operator.");}
%%
int yywrap(){}
int main()
{
printf("enter number 1");
printf("enter number 2");
printf("Enter the Operator::");
yylex();
}
```

Output:

enter the input:+
valid
-9
invalid

15. Write a LEX Program to check the email address is valid or not.

Program:

%{

%}

%%

[a-z.0-9]+@[a-z]+(.com|.in) {printf("\n valid\n");}

.+ {printf("\n Invalid\n");}

%%

int yywrap()

{}

int main()

{

printf("\nEnter : ");

yylex();

}

Output:

```
C:\Users\Admin\Desktop\Cpra>gcc lex.yy.c
'gcc' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\Admin\Desktop\Cpra>gcc lex.yy.c
'gcc' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\Admin\Desktop\Cpra>set path=C:\MinGW\bin

C:\Users\Admin\Desktop\Cpra>gcc lex.yy.c

C:\Users\Admin\Desktop\Cpra>a.exe
Enter the email: pradeepchemirth
It is not valid
It is not valid
It is not valid
```

Program:

```
%{
#include <ctype.h>
%}
%%
[a-z] { printf("%c", toupper(yytext[0])); }
.|\n { printf("%s", yytext); }
%%
int yywrap()
{
}
int main() {
 yylex();
 return 0;
}
```
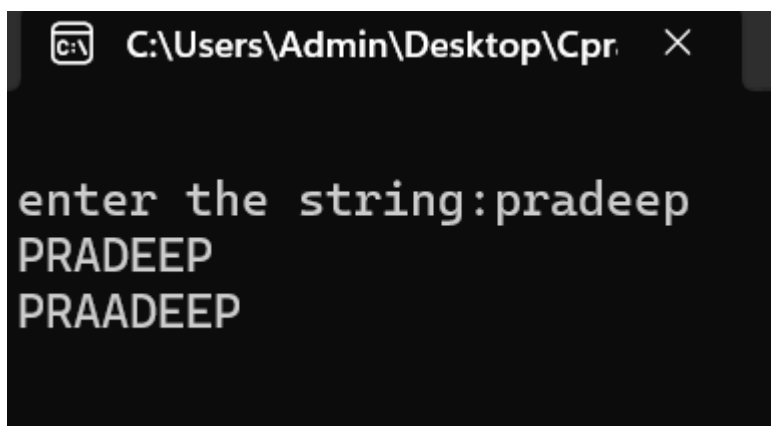
Output:


```
C:\Users\Admin\Desktop\Cpr    X

enter the string:pradeep
PRADEEP
PRAADEEP
```