Day3

1.)

```
%{
int nlines,nwords,nchars;
%}
%%
\n {
    nchars++;nlines++;
    }
[^\n\t]+ {nwords++,nchars=nchars+yyleng;}
. {nchars++;}
%%
int yywrap(void){}
int main()
{
yylex();
printf("Lines=%d\nChars=%d\nWords=%d",nlines,nchars,nwords);
return 0;
}
```

```
Command Prompt
Microsoft Windows [Version 10.0.19045.4412]
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C:\Users\Owner>cd downloads

C:\Users\Owner\Downloads>cd lex code1

C:\Users\Owner\Downloads\lex code1>set path=C:\Program Files\GnuWin32\bin

C:\Users\Owner\Downloads\lex code1>flex clw.l

C:\Users\Owner\Downloads\lex code1>set path=C:\MinGW\bin

C:\Users\Owner\Downloads\lex code1>gcc lex.yy.c

C:\Users\Owner\Downloads\lex code1>a.exe
here is the fish
there is a fish
^Z
Lines=2
Chars=33
Words=2
C:\Users\Owner\Downloads\lex code1>
```

2.)%{

int nmacro,nheader;

%}

%%

^#define {nmacro++;}

^#include {nheader++;}
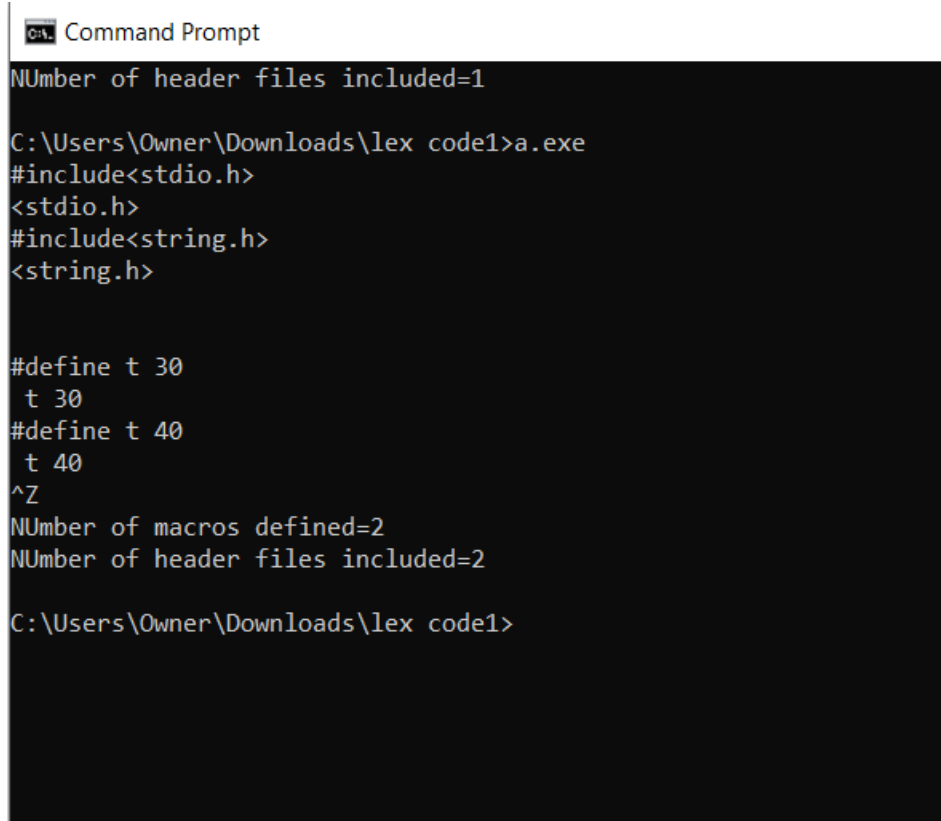
%%

int yywrap()

{

return 1;

}

int main()

{

```
yylex();
printf("NUmber of macros defined=%d\n",nmacro);
printf("NUmber of header files included=%d\n",nheader);
}
```



```
NUmber of header files included=1

C:\Users\Owner\Downloads\lex code1>a.exe
#include<stdio.h>
<stdio.h>
#include<string.h>
<string.h>


#define t 30
 t 30
#define t 40
 t 40
^Z
NUmber of macros defined=2
NUmber of header files included=2

C:\Users\Owner\Downloads\lex code1>
```

3.)

```
%{
%}
%%
<INITIAL>[0-9]+ {printf("integer\n");}
<INITIAL>[0-9]+[.][0-9]+ {printf("float\n");}
<INITIAL>[A-Za-z0-9_]* {printf("identifier\n");}
<INITIAL>[^\n] {printf("invalid\n");}
```

```
%%

int yywrap(){}

int main()

{

printf("enter String\n");

yylex();

return 0;

}
```

```
C:\Users\Owner\Downloads>cd lex code1

C:\Users\Owner\Downloads\lex code1>set path=C:\Program Files\GnuWin32\bin

C:\Users\Owner\Downloads\lex code1>flex wordsnum.l

C:\Users\Owner\Downloads\lex code1>set path=C:\MinGW\bin

C:\Users\Owner\Downloads\lex code1>gcc lex.yy.c

C:\Users\Owner\Downloads\lex code1>a.exe
my name is tharun sai kumar and my age is 19 and reg no is 192210280
Word: my
Word: name
Word: is
Word: tharun
Word: sai
Word: kumar
Word: and
Word: my
Word: age
Word: is
Number: 19
Word: and
Word: reg
Word: no
Word: is
Number: 192210280
```
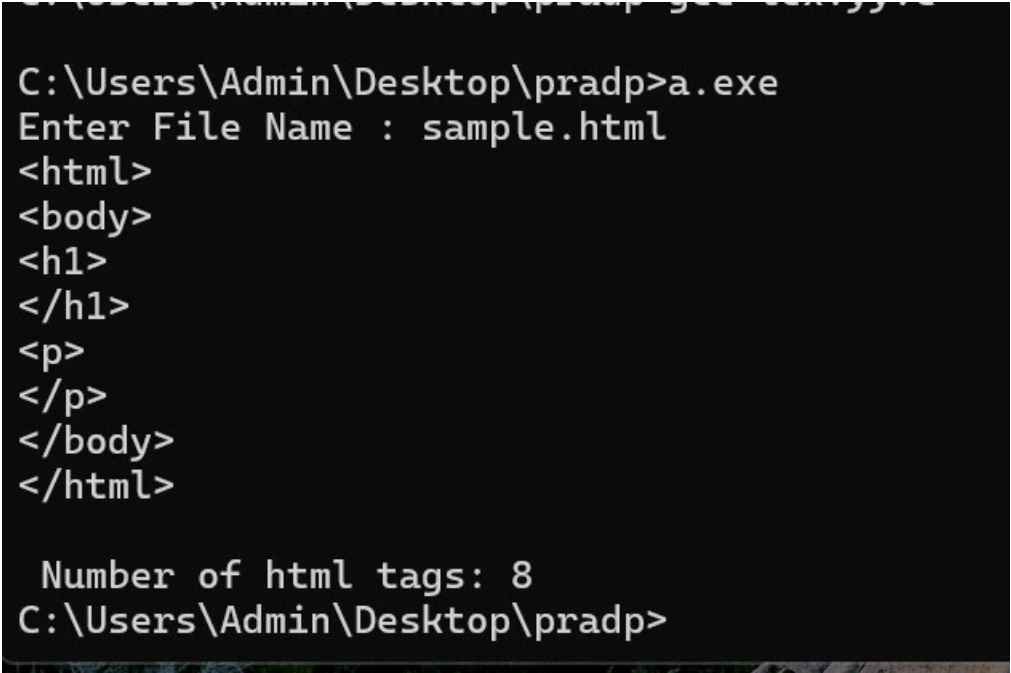
4.)%{

```
int ln=0;
%}
%%
.* {ln++; fprintf(yyout,"\n%d:%s",ln,yytext);}
%%
int yywrap(){}
int main()
{
yyin=fopen("simple1.txt","r");
yyout=fopen("out.txt","w");
yylex();
}
```

```
C:\Users\Admin\Desktop\pradp>a.exe
Enter File Name : sample.html
<html>
<body>
<h1>
</h1>
<p>
</p>
</body>
</html>

 Number of html tags: 8
C:\Users\Admin\Desktop\pradp>
```

5.)%{

int vow_count=0;

```
int const_count=0;
%}


%%


[aeiouAEIOU] {vow_count++;}


[a-zA-Z] {const_count++;}


%%


int yywrap(){}
int main()
{
printf("enter the string of vowels and consonents:");
yylex();
printf("number of vowels are:%d\n",vow_count);
printf("number of consonents are:%d\n",const_count);
return 0;
}
```

```
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C:\Users\Owner>cd downloads

C:\Users\Owner\Downloads>cd lex code1

C:\Users\Owner\Downloads\lex code1>set path=C:\Program Files\GnuWin32\bin

C:\Users\Owner\Downloads\lex code1>flex vc.l

C:\Users\Owner\Downloads\lex code1>set path=C:\MinGW\bin

C:\Users\Owner\Downloads\lex code1>gcc lex.yy.c

C:\Users\Owner\Downloads\lex code1>a.exe
enter the string of vowels and consonents:tharun

^Z
number of vowels are:2
number of consonents are:4

C:\Users\Owner\Downloads\lex code1>
```

6.)%{

%}

%%

[a-zA-Z][a-zA-Z0-9]+ {printf("\n is identifier",yytext);}

.+ {printf("\n%s is Keyword",yytext);}

%%

int yywrap(){}

int main()

{

printf("Enter the input:");

yylex();

}

```
Command Prompt - a.exe

Microsoft Windows [Version 10.0.19045.4412]
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C:\Users\Owner>cd downloads

C:\Users\Owner\Downloads>cd lex code1

C:\Users\Owner\Downloads\lex code1>set path=C:\Program Files\GnuWin32\bin

C:\Users\Owner\Downloads\lex code1>flex identifier.l

C:\Users\Owner\Downloads\lex code1>set path=C:\MinGW\bin

C:\Users\Owner\Downloads\lex code1>gcc lex.yy.c

C:\Users\Owner\Downloads\lex code1>a.exe
Enter the input:tharun

 is identifier
if

 is identifier
if and else

if and else is Keyword
```

7.)%{

int ln=0;

%}

%%

.* {ln++; fprintf(yyout,"\n%d:%s",ln,yytext);}

%%

int yywrap(){}

int main()

{

yyin=fopen("simple1.txt","r");

```
yyout=fopen("out.txt","w");

yylex();

}
```
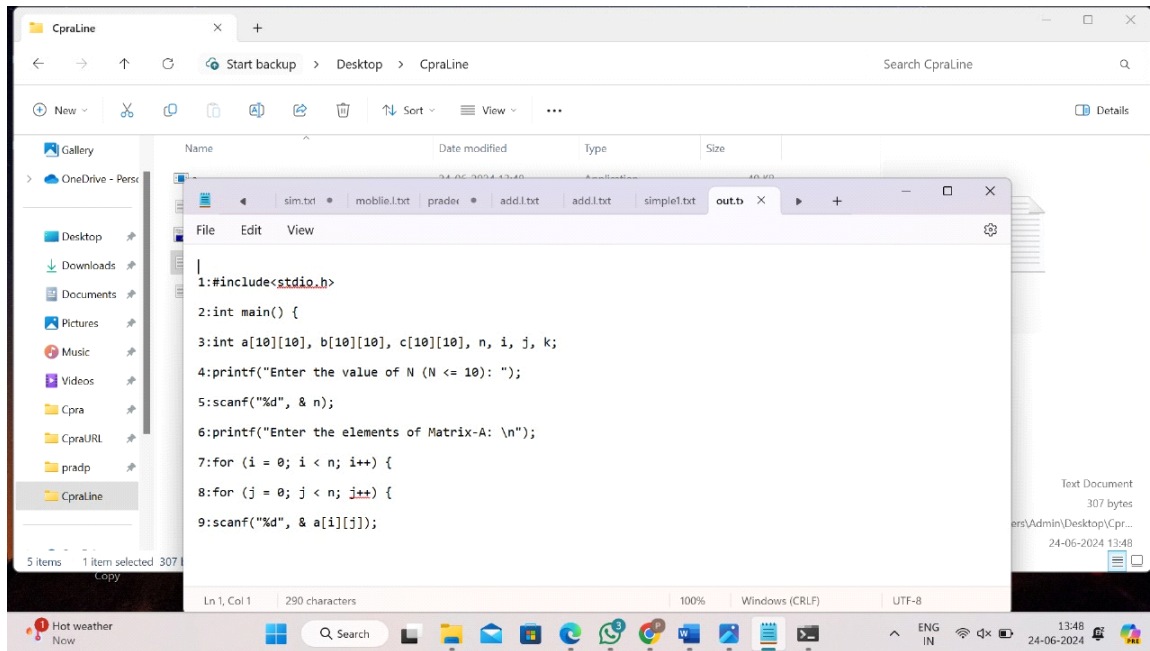

8.)%{

#include <stdio.h>

#include <ctype.h>

%}

%%

[A-Za-z]+   { printf("Word: %s\n", yytext); }

"=="   { printf("Relational Operator: %s\n", yytext); }

"!="   { printf("Relational Operator: %s\n", yytext); }

"<="   { printf("Relational Operator: %s\n", yytext); }

```
">="        { printf("Relational Operator: %s\n", yytext); }
"<"         { printf("Relational Operator: %s\n", yytext); }
">"         { printf("Relational Operator: %s\n", yytext); }
[ \t\n]+    { /* ignore whitespace */ }
.           { /* ignore other characters */ }


%%

int yywrap() {
    return 1;
}

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

```
Microsoft Windows [Version 10.0.19045.4412]
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C:\Users\Owner>cd downloads

C:\Users\Owner\Downloads>cd lex code1

C:\Users\Owner\Downloads\lex code1>set path=C:\Program Files\GnuWin32\bin

C:\Users\Owner\Downloads\lex code1>flex ro.l

C:\Users\Owner\Downloads\lex code1>set path=C:\MinGW\bin

C:\Users\Owner\Downloads\lex code1>gcc lex.yy.c

C:\Users\Owner\Downloads\lex code1>a.exe
<=
Relational Operator: <=
==
Relational Operator: ==
ww
Word: ww
>=
Relational Operator: >=
```

9.)