NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL
LP LAB ASSIGNMENT-1

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Section: A

To count no of vowels and consonants

CODE:

```
%{
#include<stdio.h>
int vc=0,cc=0;
%}
%%
[aeiouAEIOU] {vc++;}
[a-zA-Z] {cc++;}
%%
int main()
{
printf("Enter a string To count of vowels and consonant");
yylex();
printf("No.of vowels : %d\n",vc);
printf("No.of consonants : %d\n",cc);
return 0;
```

}

```
mpuligiri@mpuligiri:~/lp lab$ lex cnvc.l
mpuligiri@mpuligiri:~/lp lab$ gcc lex.yy.c -ll
mpuligiri@mpuligiri:~/lp lab$ ./a.out
Enter a string To count of vowels and consonant

Manoharraopuligiri

No.of vowels : 9
No.of consonants : 9
mpuligiri@mpuligiri:~/lp lab$
```

To count the length of string

CODE

```
%{
#include<stdio.h>
int len=0;
%}
%%
. {len++;}
%%
int main()
{
printf("Enter any string \n");
yylex();
printf("length of the string is: %d\n",len);
return 0;
}
```

```
mpuligiri@mpuligiri:~/lp lab$ lex cls.l
mpuligiri@mpuligiri:~/lp lab$ gcc lex.yy.c -ll
mpuligiri@mpuligiri:~/lp lab$ ./a.out
Enter any string
nitwarangal

length of the string is: 11
mpuligiri@mpuligiri:~/lp lab$
```

To count the type of numbers-- +integer, -ve integer, +ve fraction, -ve fraction

CODE :

```
%{

#include<stdio.h>

int pi=0,ni=0,pf=0,nf=0,zc=0;

%}

%%

0 {zc++;}

[+]?[0-9]* {pi++;}

[-][0-9]* {ni++;}

[+]?[0-9]*[.][0-9]* {pf++;}

[-][0-9]*[.][0-9]* {nf++;}

%%

int main()

{

printf("enter any number : \n");

yylex();

printf("Number of positive integers : %d\n",pi);
```

```
printf("Number of negative integers : %d\n",ni);
printf("Number of positive fraction : %d\n",pf);
printf("Number of negative fraction : %d\n",nf);
printf("Number of zeroes : %d\n",zc);
return 0;
}
```

```
mpuligiri@mpuligiri:~/lp lab$ lex ctn.l
mpuligiri@mpuligiri:~/lp lab$ gcc lex.yy.c -ll
mpuligiri@mpuligiri:~/lp lab$ ./a.out
enter any number :
25 3 2.01 5 68 90.2 6 7 22 88 4 5

Number of positive integers : 10
Number of negative integers : 0
Number of positive fraction : 2
Number of negative fraction : 0
Number of zeroes : 0
mpuligiri@mpuligiri:~/lp lab$
```

To count the no of words, character, and lines.

CODE :

```
%{
#include<stdio.h>
int wc=0,cc=0,lc=0;
%}
%%
" "+"\n" {wc++;lc++;}
." " {cc++;wc++;}
."\n" {wc++;lc++;cc++;}
."\0" {wc++;lc++;cc++;}
```

```
. {cc++;}

[\n] {lc++;}

%%

int main()

{

printf("Enter anything : \n");

yylex();

printf("No.of words : %d\n",wc);

printf("No.of characters : %d\n",cc);

printf("No.of lines : %d\n",lc);

return 0;

}
```

```
mpuligiri@mpuligiri:~/lp lab$ lex cnw.l
mpuligiri@mpuligiri:~/lp lab$ gcc lex.yy.c -ll
mpuligiri@mpuligiri:~/lp lab$ ./a.out
Enter anything :
lp lab assignment 1
third year
cse
nit warangal
No.of words : 9
No.of characters : 39
No.of lines : 4
mpuligiri@mpuligiri:~/lp lab$
```

To find if a character apart from alphabets occurs in a string.

CODE :

```
%{

#include<stdio.h>
```

```
int spl=0;

%}

%%

[^ a-zA-Z\n] {printf("Character other than alphabet exists in the string\n");spl=1;return 0;}

. {}

%%

int main()

{

printf("enter a string :\n");

yylex();

if(spl)

return 0;

else printf("Only alphabet characters are there in the string\n");

return 0;

}
```

```
nonalp.l:8: unrecognized rule
mpuligiri@mpuligiri:~/lp lab$ lex nonalp.l
mpuligiri@mpuligiri:~/lp lab$ gcc lex.yy.c -ll
mpuligiri@mpuligiri:~/lp lab$ ./a.out
enter a string :
this@string#is$allowed
Character other than alphabet exists in the string
mpuligiri@mpuligiri:~/lp lab$ lex nonalp.l
mpuligiri@mpuligiri:~/lp lab$ gcc lex.yy.c -ll
mpuligiri@mpuligiri:~/lp lab$ ./a.out
enter a string :
this sring is not allowed

Only alphabet characters are there in the string
```

To identify a set of strings having 3 to 5 alphabets.

CODE :

```
%{
#include<stdio.h>
int len=0,c=0;
%}
%%
[a-zA-Z0-9]+ {len=strlen(yytext);if(len>=3&&len<=5){c++;} }
%%
int main()
{
yylex();
printf("Number of strings whose length between 3 to 5 are : %d\n", c);
return 0;
}
```

```
only alphabet characters are there in the string
mpuligiri@mpuligiri:~/lp lab$ lex set3to5.l
mpuligiri@mpuligiri:~/lp lab$ gcc lex.yy.c -ll
mpuligiri@mpuligiri:~/lp lab$ ./a.out
i am doing lp assignment and i should submit it now

Number of strings whose length between 3 to 5 are : 3
mpuligiri@mpuligiri:~/lp lab$
```

To count the number of small letters, capital letters, and special symbols in string.

CODE :

```
%{
#include<stdio.h>
```

```
int sl=0,cl=0,ss=0;
%}
%%
[a-z] {sl++;}
[A-Z] {cl++;}
[^ a-zA-Z0-9\n\t] {ss++;}
[0-9]* {}
%%
int main()
{
printf("enter a string : \n");
yylex();
printf("Number of small letters are: %d\n",sl);
printf("Number of capital letters are: %d\n",cl);
printf("Number of special symbols are: %d\n",ss);
return 0;
}
```