NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL

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Section – B

Branch – CSE(3rd year)

# LP LAB Assignment - 1

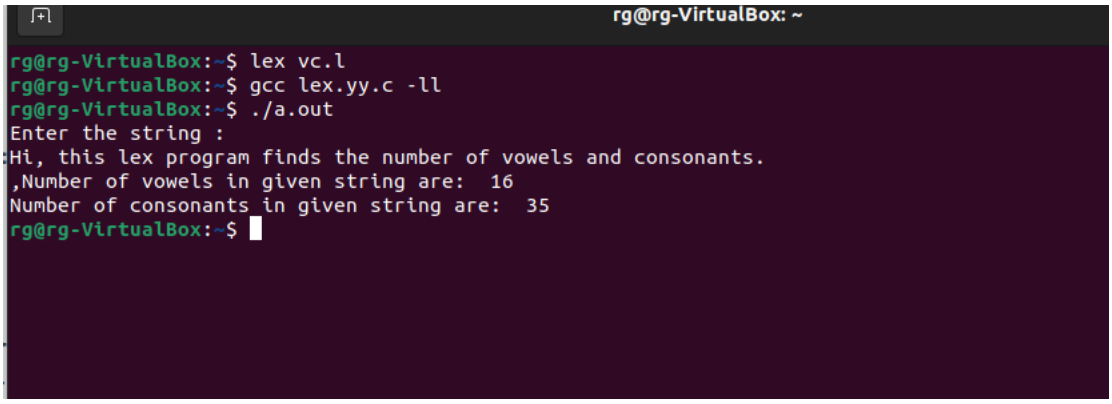
## Assignment 1: Lex

## 1. To count no of vowels and consonants.

## Code:-

```
%{
#include<stdio.h>
    int vowel_count=0;
    int consonants_count =0;
%}
%%
[aeiouAEIOU] {vowel_count++;}
[a-zA-Z] {consonants_count++;}
[' '.\n] {}
%%
int main()
{
    printf("Enter the string :\n");
    yylex();
    printf("Number of vowels in given string are:  %d\n", vowel_count);
    printf("Number of consonants in given string are:  %d\n", consonants_count);
    return 0;
}
```

**Output:-**

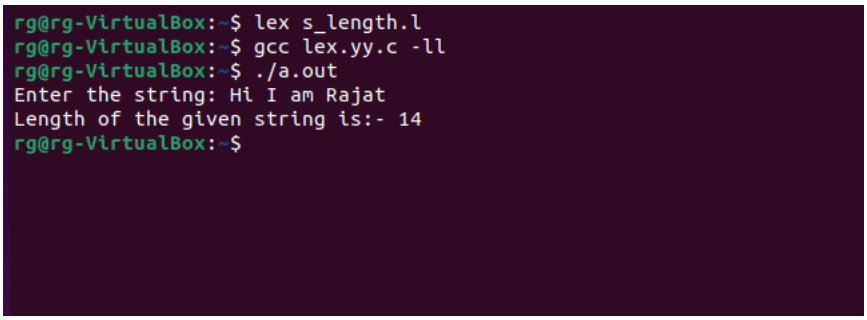


## 2. To count the length of string

### Code:-

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

Output:-




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

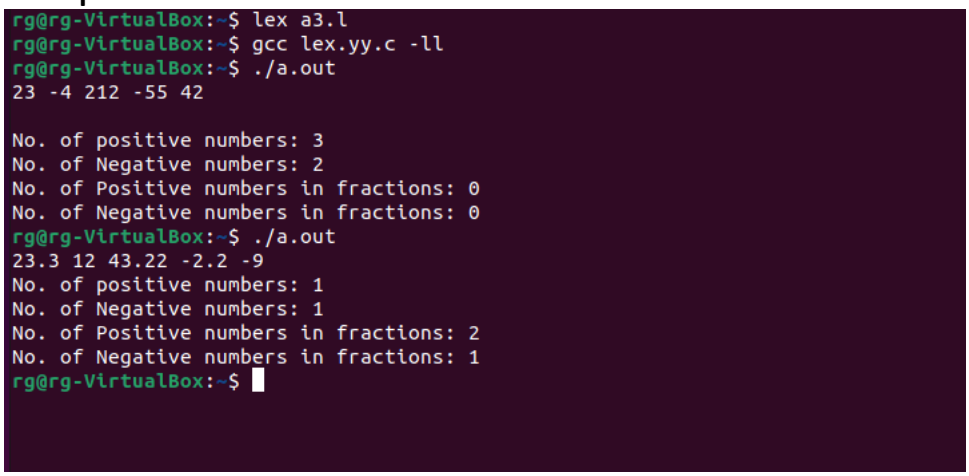
### Code:-

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

```
        int pi=0;
        int ni=0;
        int pf=0;
        int nf=0;
%}
D [0-9]
%%
\+?{D}+                 pi++;
-{D}+                   ni++;
\+?{D}*\.{D}+ pf++;
-{D}*\.{D}+  nf++;
. ;
[\n] {}
%%
int main()
{
        yylex();
        printf("\nNo. of positive numbers: %d", pi);
        printf("\nNo. of Negative numbers: %d", ni);
        printf("\nNo. of Positive numbers in fractions: %d", pf);
        printf("\nNo. of Negative numbers in fractions: %d\n", nf);
        return 0;

}
```

Output:-



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

## Code:-

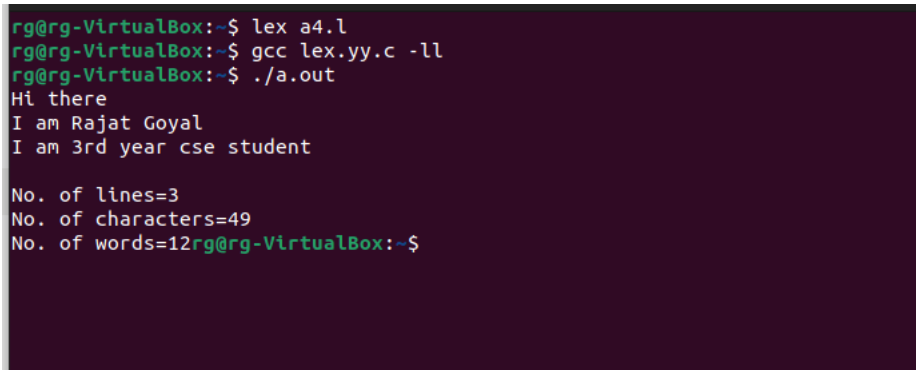
```
%{

    #include<stdio.h>
    int l=0, c=0, w=0;
    %}
    %%
    \n l++;
    [^ \n\t]+ {w++; c=c+yyleng; }
    . c++;
    %%

    int main()

    {
        yylex();
        printf("\nNo. of lines=%d", l);
        printf("\nNo. of characters=%d", c);
        printf("\nNo. of words=%d", w);
    }
```

Output:-



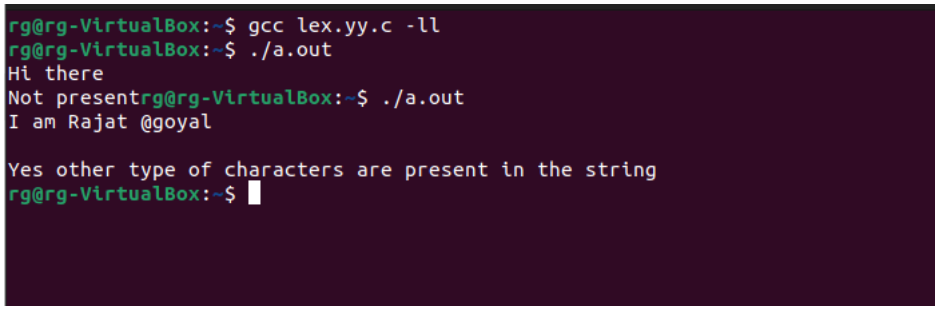
## 5. To find if a character apart from alphabets occurs in a string.

## Code:-

```
%{
#include<stdio.h>
int present = 0;
%}
%%
[\n' '] {}
[^a-zA-Z] {present = 1;}
. {}
%%

int main(){
        yylex();
        if(present)
        printf("Yes other type of characters are present in the string\n");
        else
        printf("Not present");
        return 0;
}
```

Output:-



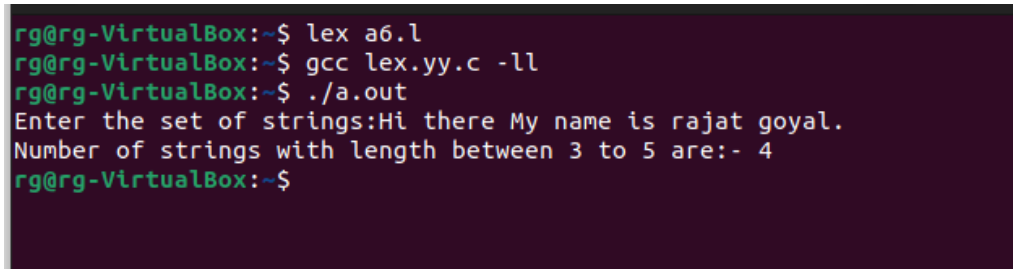
## 6. To identify set of strings having 3 to 5 alphabets.

## Code:-

```
%{
  #include<stdio.h>
  int len=0, counter=0;
%}

%%
[a-zA-Z]+ { len=strlen(yytext);
            if(len<=5 && len>=3)
              {counter++;} }
. {}
[\n] {}
%%
int main()
 {
  printf("Enter the set of strings:");
  yylex();
  printf("Number of strings with length between 3 to 5 are:- %d \n", counter);
  return 0;
 }
```

Output:-



## 7. To count number of small letter, capital letter, special symbol in string.

## Code:-

```
%{
#include<stdio.h>
int s_letters=0,c_letters=0, spl_char=0;
%}
%%
[A-Z] c_letters++;
[a-z] s_letters++;
. spl_char++;
[\n] {}
%%
int main()
{
yylex();
printf("Total small letters are:- %d\n", s_letters);
printf("Total capital letters are:- %d\n", c_letters);
printf("Total special characters are:- %d\n", spl_char);
}
```

Output:-