

**NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR**

**Cachar, Assam**

**B.Tech. VI<sup>th</sup> Sem**

**Subject Code:** CS-316

**Subject Name:** Compiler Design Lab

**Submitted By:**

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Branch : CSE – B

1. Write a lex program to count the number of vowels and consonants in a given Sentence.

→ **CODE:**

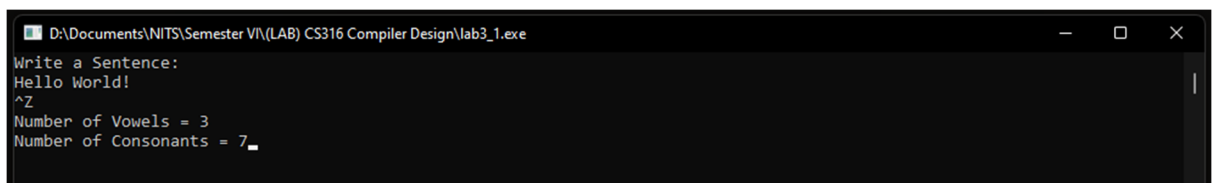
```
%{
    #include <stdio.h>
    #include <conio.h>
    int vCount = 0, cCount = 0;
}%

%%
[^a-zA-Z] {}
[aeiouAEIOU] {++vCount;}
[a-zA-Z] {++cCount;}
%%

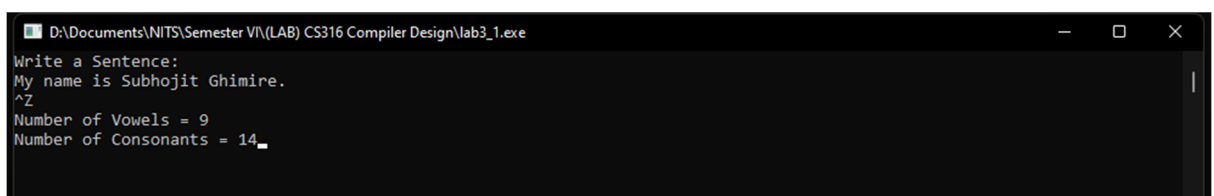
int yywrap(){
    return 1;
}

main(){
    printf ("Write a Sentence:\n");
    yylex();
    printf ("Number of Vowels = %d\n", vCount);
    printf ("Number of Consonants = %d", cCount);
    getch();
}
```

**OUTPUT:**



```
D:\Documents\NITS\Semester VII\LAB) CS316 Compiler Design\lab3_1.exe
Write a Sentence:
Hello World!
^Z
Number of Vowels = 3
Number of Consonants = 7_
```



```
D:\Documents\NITS\Semester VII\LAB) CS316 Compiler Design\lab3_1.exe
Write a Sentence:
My name is Subhojit Ghimire.
^Z
Number of Vowels = 9
Number of Consonants = 14_
```

2. Write a lex program to count the number of lines, words, special characters and letters in a program.

→ **CODE:**

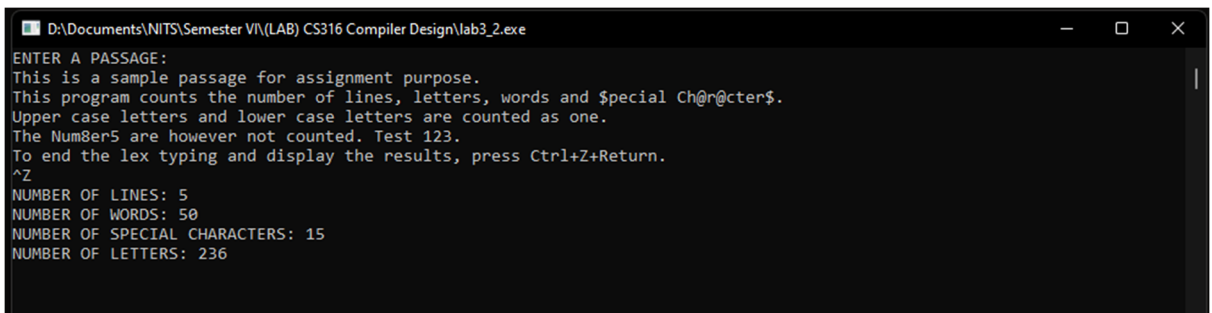
```
%{
    #include <stdio.h>
    #include <conio.h>
    int lines = 0, words = 0, specialchars = 0, letters = 0;
}%

%%
"\n" {++lines; ++words;}
" " | "\t" {++words;}
[a-zA-Z] {++letters;}
[0-9] { /*numbers*/ }
. {++specialchars;}
%%

int yywrap(){
    return 1;
}

main(){
    printf ("ENTER A PASSAGE:\n");
    yylex();
    printf ("NUMBER OF LINES: %d\n", lines);
    printf ("NUMBER OF WORDS: %d\n", words);
    printf ("NUMBER OF SPECIAL CHARACTERS: %d\n", specialchars);
    printf ("NUMBER OF LETTERS: %d\n", letters);
    getch();
}
```

**OUTPUT:**



```
D:\Documents\NITS\Semester VI\LAB) CS316 Compiler Design\lab3_2.exe
ENTER A PASSAGE:
This is a sample passage for assignment purpose.
This program counts the number of lines, letters, words and $pecial Ch@r@cter$.
Upper case letters and lower case letters are counted as one.
The NumBer5 are however not counted. Test 123.
To end the lex typing and display the results, press Ctrl+Z+Return.
^Z
NUMBER OF LINES: 5
NUMBER OF WORDS: 50
NUMBER OF SPECIAL CHARACTERS: 15
NUMBER OF LETTERS: 236
```