

NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR

Cachar, Assam

B.Tech. VIth 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:**

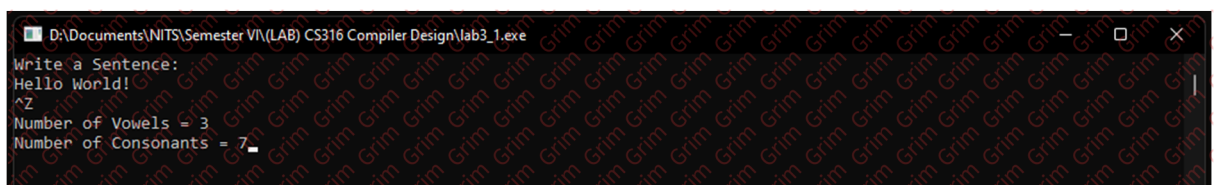
```
%{
#include <stdio.h>
int vowelnum = 0, consonantnum = 0;
%}

%%
"a"|"e"|"i"|"o"|"u" {vowelnum++;}
"A"|"E"|"I"|"O"|"U" {vowelnum++;}
[a-zA-Z] {consonantnum++;}
%%

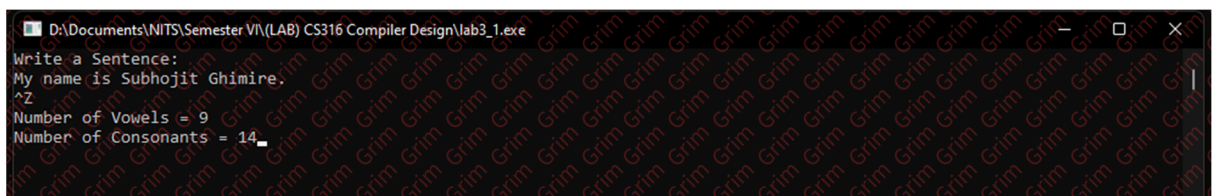
int yywrap(){
return 1;
}

main(){
printf ("Write Something:\n");
yylex();
printf ("Vowels: %d; Consonants: %d", vowelnum, consonantnum);
}
```

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:**

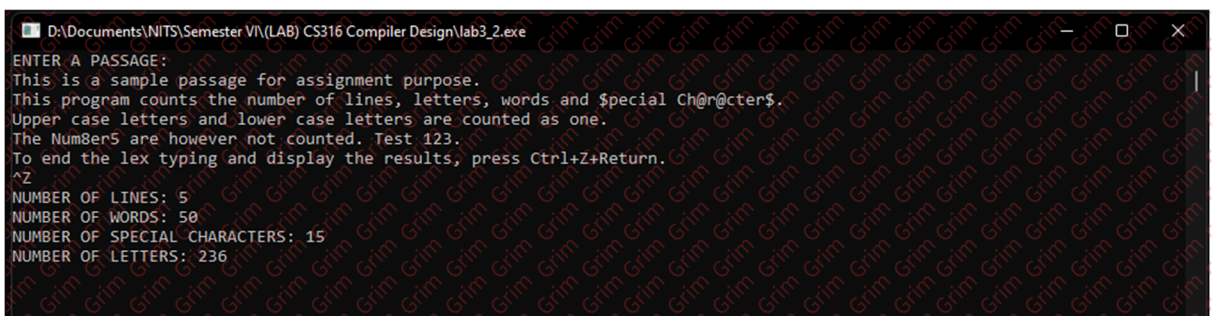
```
%{
#include <stdio.h>
int lines=0, words=0, schars=0, letters=0;
%}

%%
"\n" {lines++; words++;}
[\t ] {++words;}
[a-zA-Z] {++letters;}
[0-9] {}
. {schars++;}
%%

int yywrap(){
return 1;
}

main(){
printf ("Write Something:\n");
yylex();
printf ("Lines: %d\n", lines);
printf ("Words: %d\n", words);
printf ("Special Characters: %d\n", schars);
printf ("Letters: %d\n", letters);
}
```

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 special Characters.
Upper case letters and lower case letters are counted as one.
The Numbers 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
```