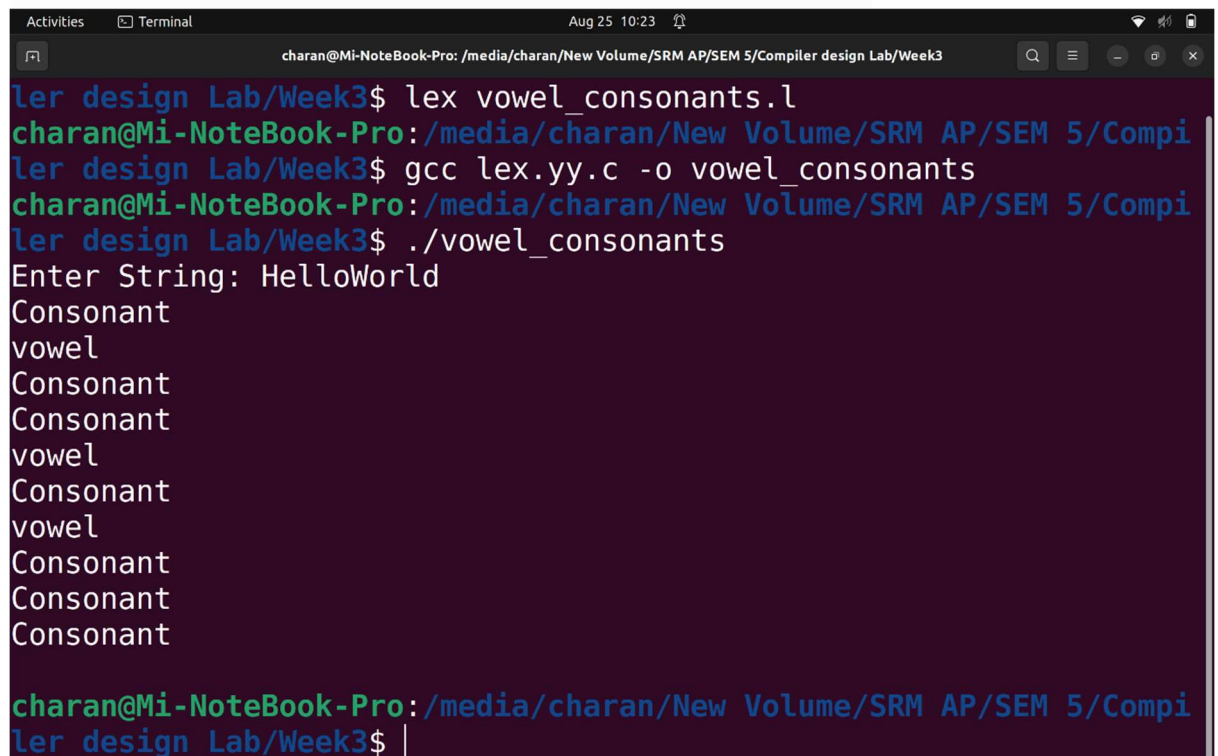


## Week-3 Assignment

### Introduction to LEX Tool

a. Identification of Vowels and Consonants

```
1 %{
2     #include<stdio.h>
3     #include<ncurses.h>
4 %}
5
6 %%
7 [aeiouAEIOU] {printf("vowel\n");}
8 [a-zA-Z] {printf("Consonant\n");}
9 %%
10 int yywrap(){return 1;}
11 int main()
12 {
13     printf("Enter String: ");
14     yylex();
15     return 0;
16 }
17
```

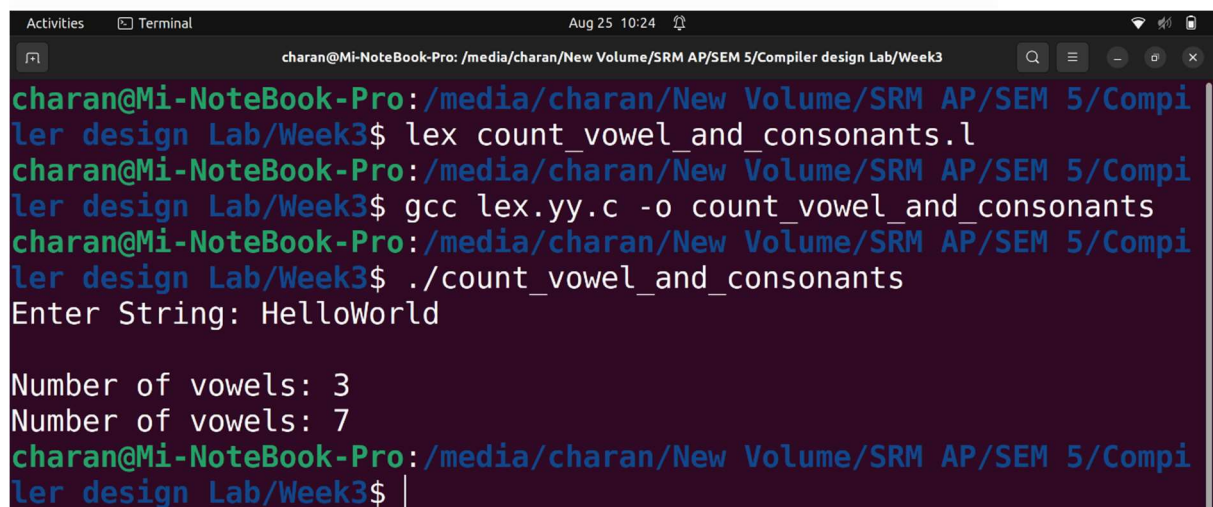


```
Activities Terminal Aug 25 10:23
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3
ler design Lab/Week3$ lex vowel_consonants.l
charan@Mi-NoteBook-Pro:/media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$ gcc lex.yy.c -o vowel_consonants
charan@Mi-NoteBook-Pro:/media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$ ./vowel_consonants
Enter String: HelloWorld
Consonant
vowel
Consonant
Consonant
vowel
Consonant
vowel
Consonant
Consonant
Consonant

charan@Mi-NoteBook-Pro:/media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$
```

b. count number of vowels and consonants

```
1 %{
2     #include<stdio.h>
3     int vow=0;
4     int con=0;
5 %}
6
7 %%
8 [aeiouAEIOU] {vow++;}
9 [a-zA-Z] {con++;}
10 %%
11 int yywrap(){}
12 int main()
13 {
14     printf("Enter String: ");
15     yylex();
16     printf("Number of vowels: %d\n",vow);
17     printf("Number of vowels: %d\n",con);
18     return 0;
19 }
20
```



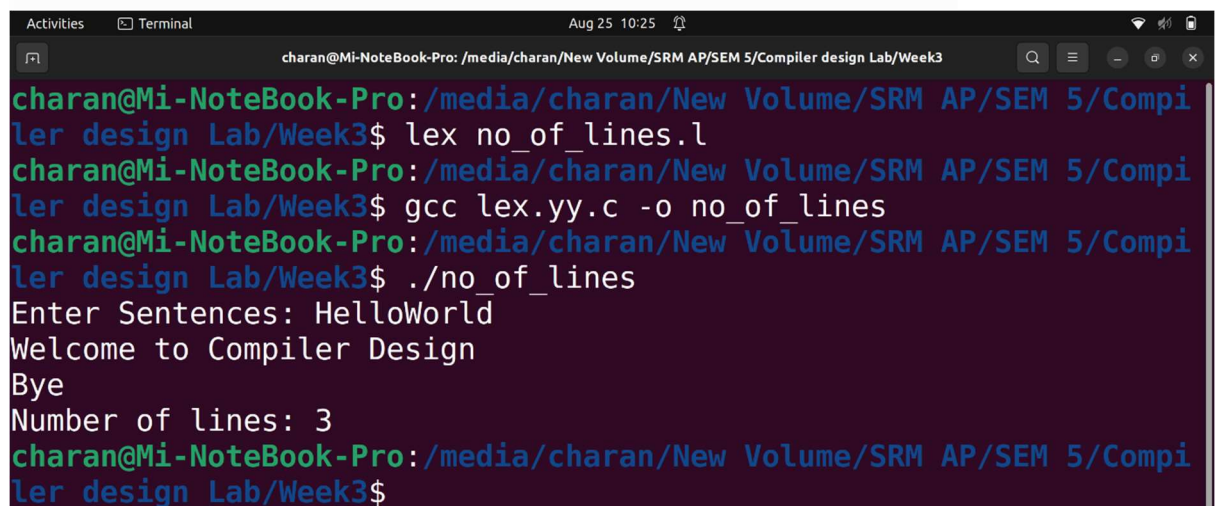
The screenshot shows a terminal window with the following commands and output:

```
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$ lex count_vowel_and_consonants.l
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$ gcc lex.yy.c -o count_vowel_and_consonants
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$ ./count_vowel_and_consonants
Enter String: HelloWorld

Number of vowels: 3
Number of vowels: 7
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$ |
```

- c. Count the number of Lines in given input

```
1 %{
2     #include<stdio.h>
3     int count=0;
4 %}
5
6 %%
7
8 \n {count++;}
9 .|\\n
10 %%
11 int yywrap(void){ return 1;}
12 int main()
13 {
14     printf("Enter Sentences: ");
15     yylex();
16     printf("Number of lines: %d\n",count);
17     return 0;
18 }
19
```

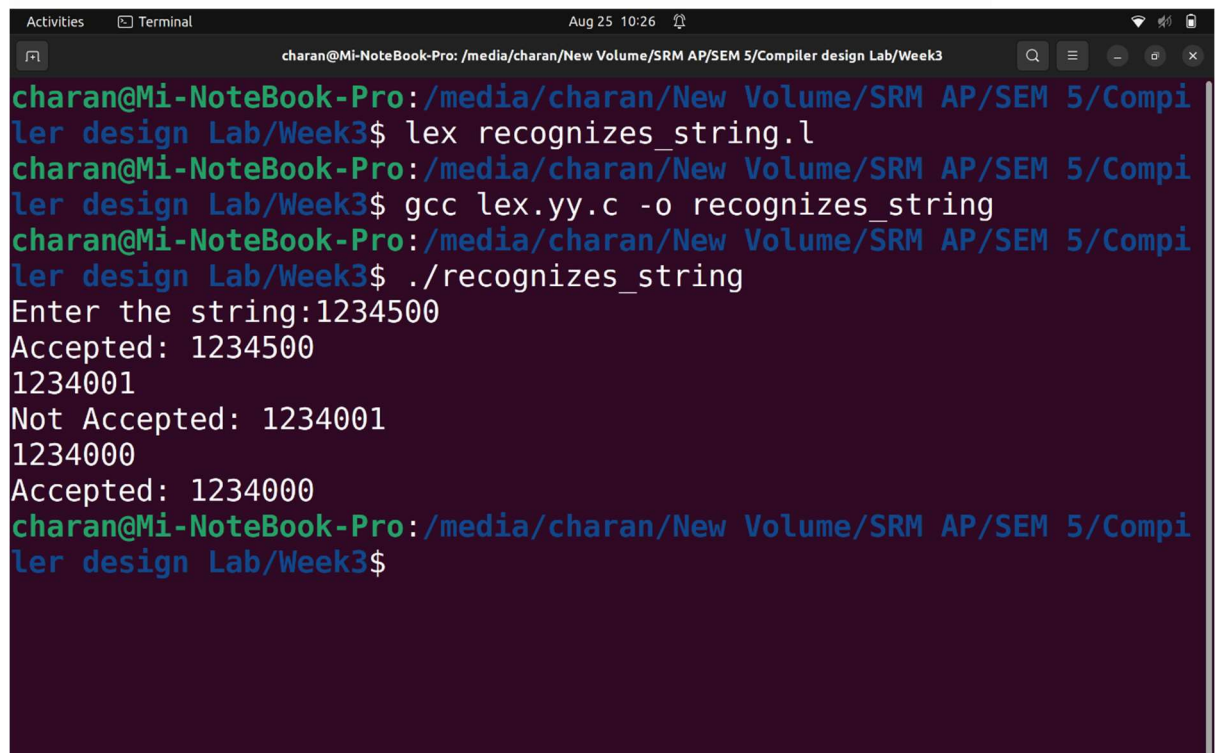


The screenshot shows a terminal window with the following content:

```
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$ lex no_of_lines.l
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$ gcc lex.yy.c -o no_of_lines
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$ ./no_of_lines
Enter Sentences: HelloWorld
Welcome to Compiler Design
Bye
Number of lines: 3
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$
```

- d. Recognize strings ending with 00

```
1 %{
2     #include<stdio.h>
3     #include <ncurses.h>
4 %}
5
6 %%
7 [0-9]*00 {printf("Accepted: %s\n",yytext);}
8 [0-9]* {printf("Not Accepted: %s\n",yytext);}
9 .|\n
10 %%
11 int yywrap(void){
12     return 1;
13 }
14 int main()
15 {
16     printf("Enter the string:");
17     yylex();
18     return 0;
19 }
```



```
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$ lex recognizes_string.l
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$ gcc lex.yy.c -o recognizes_string
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$ ./recognizes_string
Enter the string:1234500
Accepted: 1234500
1234001
Not Accepted: 1234001
1234000
Accepted: 1234000
charan@Mi-NoteBook-Pro: /media/charan/New Volume/SRM AP/SEM 5/Compiler design Lab/Week3$
```

- e. Recognize a string with three consecutive 0's

```
1  %{
2  #include <stdio.h>
3  %}
4
5  %%
6  \d*000\d*    printf("Matched: %s\n", yytext);
7  .|\n        /* ignore other characters */
8  %%
9  int yywrap(){return 1;}
10 int main() {
11     yylex();
12     return 0;
13 }
14
```

```
PS C:\Users\91879\OneDrive\Desktop> lex .\consecutive_zeroes.l
PS C:\Users\91879\OneDrive\Desktop> gcc -o consecutive_zeroes .\lex.yy.c
PS C:\Users\91879\OneDrive\Desktop> .\consecutive_zeroes.exe
1010001010
Matched: 000
01010101
101010101010
1000010101
Matched: 000
PS C:\Users\91879\OneDrive\Desktop> |
```