

NAME: VAIBHAV BANKA

REG NO: 21BCE1955

EXERCISE 2

1 To check whether a word is verb or not in a given statement.

CODE

```
%{  
%}  
%%  
[\\t ]+;  
is |  
am |  
are |  
were |  
was |  
be |  
being |  
been |  
do |  
does |  
did |  
will |  
would |  
should |  
can |  
could |  
has |  
have |  
had |  
go { printf("\\n%s: is a verb", yytext); }  
[a-zA-Z]+ { printf("\\n%s: is not a verb", yytext); }
```

```

.|[\n] { ECHO; }

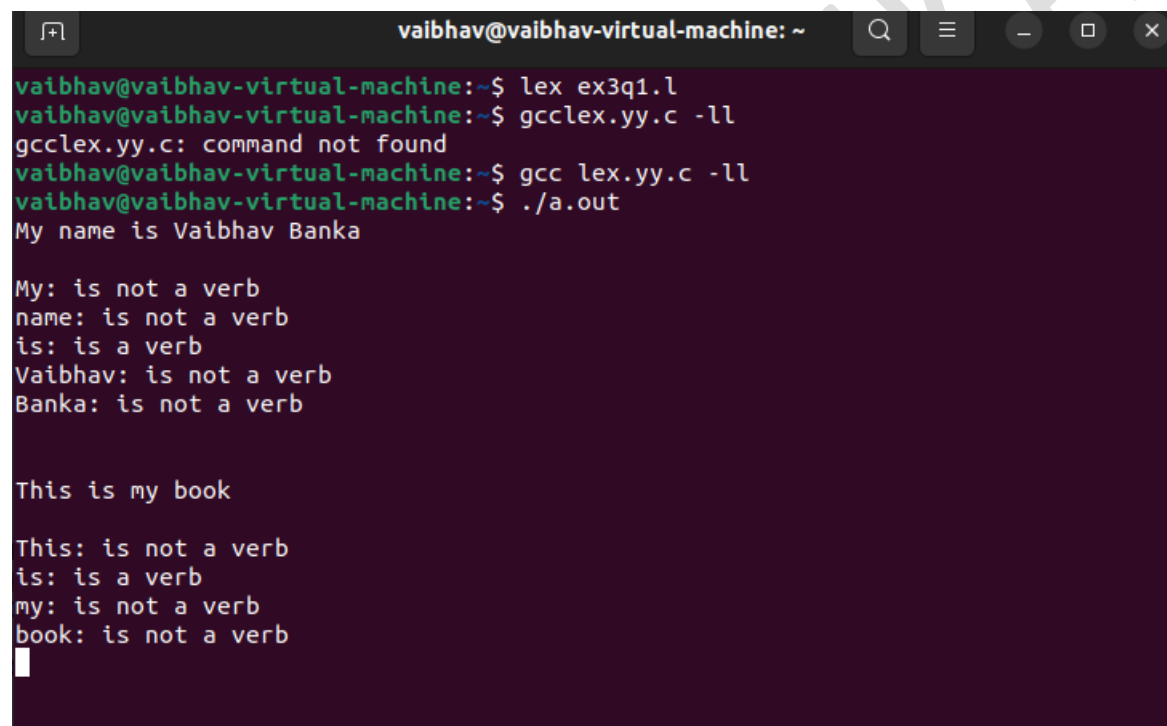
%%

int yywrap({});

int main()
{
    yylex();
    return 0;
}

```

OUTPUT



```

vaibhav@vaibhav-virtual-machine: ~
vaibhav@vaibhav-virtual-machine:~$ lex ex3q1.l
vaibhav@vaibhav-virtual-machine:~$ gcc lex.yy.c -ll
gcc lex.yy.c: command not found
vaibhav@vaibhav-virtual-machine:~$ gcc lex.yy.c -ll
vaibhav@vaibhav-virtual-machine:~$ ./a.out
My name is Vaibhav Banka

My: is not a verb
name: is not a verb
is: is a verb
Vaibhav: is not a verb
Banka: is not a verb

This is my book

This: is not a verb
is: is a verb
my: is not a verb
book: is not a verb

```

2. To check whether a given number is decimal or whole number

CODE

```

%{
#include <stdio.h>

%}

digit [0-9]

%%

[/t]+;

{digit}+\. {1}[0-9]+ {printf("Decimal Number\n");}

```

```

{digit}+ {printf("Whole Number\n");}

. {printf("It is invalid\n");}

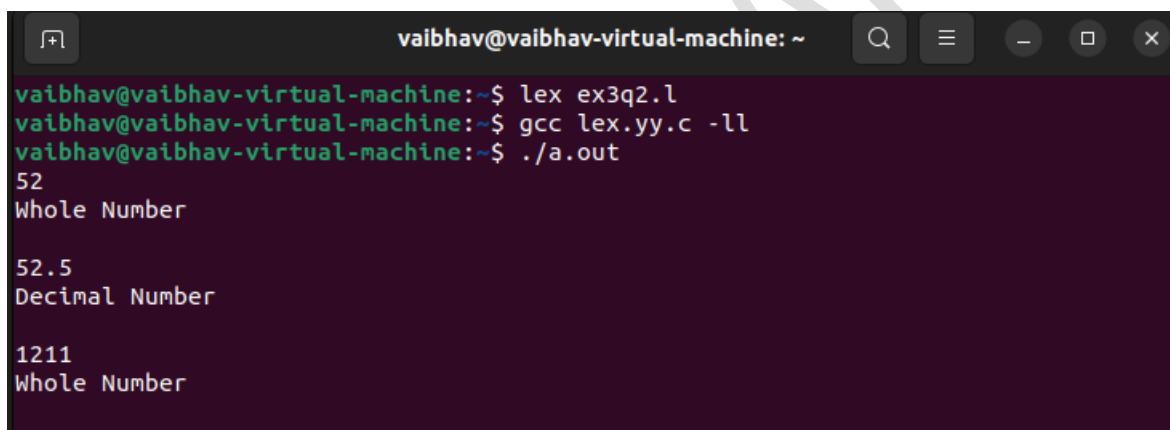
%%

int yywrap(){
return 1;
}

int main()
{
yylex();
return 0;
}

```

OUTPUT



```

vaibhav@vaibhav-virtual-machine: ~
vaibhav@vaibhav-virtual-machine:~$ lex ex3q2.l
vaibhav@vaibhav-virtual-machine:~$ gcc lex.yy.c -ll
vaibhav@vaibhav-virtual-machine:~$ ./a.out
52
Whole Number

52.5
Decimal Number

1211
Whole Number

```

3. To count the characters other than letters

CODE

```

%{
#include <stdio.h>

int count = 0;

}%

%%

[^a-zA-Z\n] {count++;printf("%s\n",yytext);}

[\n] {printf("Count is %d\n",count); return 0;}

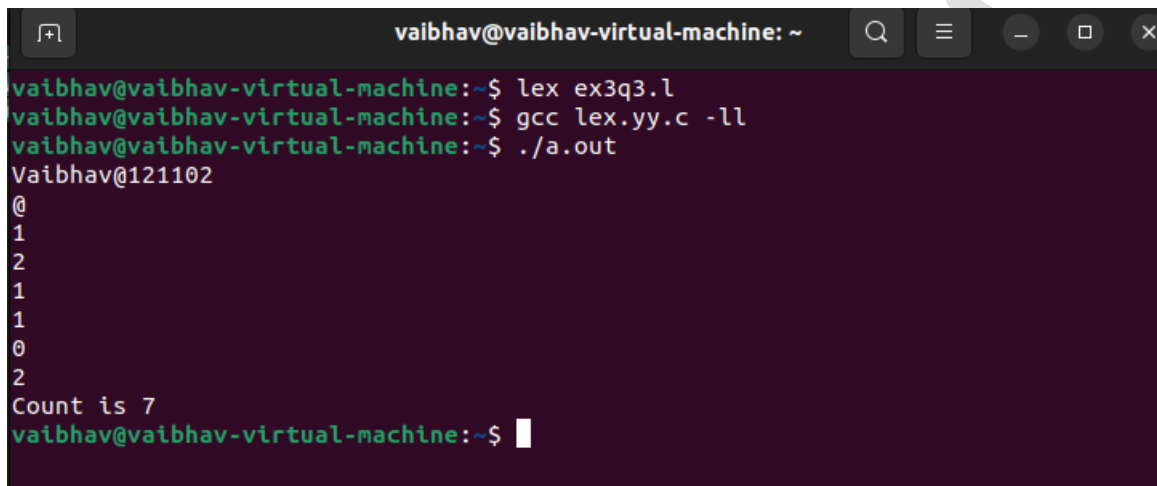
.;

%%

```

```
int yywrap({});  
  
int main()  
{  
    yylex();  
    return 0;  
}
```

OUTPUT



```
vaibhav@vaibhav-virtual-machine: ~  
vaibhav@vaibhav-virtual-machine:~$ lex ex3q3.l  
vaibhav@vaibhav-virtual-machine:~$ gcc lex.yy.c -ll  
vaibhav@vaibhav-virtual-machine:~$ ./a.out  
Vaibhav@121102  
@  
1  
2  
1  
1  
0  
2  
Count is 7  
vaibhav@vaibhav-virtual-machine:~$
```

4. To count and print the number of whitespaces

CODE

```
%{  
#include <stdio.h>  
  
int count=0;  
%}  
  
whitespace [ ]  
%%  
  
{whitespace} {count++;}  
  
[\\n] {printf("The count is: %d\\n",count); return 0;}  
  
.;  
%%  
  
int yywrap({});  
  
int main()  
{
```

```
yylex();  
return 0;  
}
```

OUTPUT

```
vaibhav@vaibhav-virtual-machine:~$ lex ex3q4.l  
vaibhav@vaibhav-virtual-machine:~$ gcc lex.yy.c -ll  
vaibhav@vaibhav-virtual-machine:~$ ./a.out  
Here we will count the number of whitespaces 21BCE1955  
The count is: 8  
vaibhav@vaibhav-virtual-machine:~$
```

5. To count the number of words, lines and characters in the input file.

CODE

```
%{  
#include <stdio.h>  
  
int word=0,line=0,charac=0;  
  
%}  
  
%%  
  
[A-Za-z][ " | . | , | " | ' ] [0-9] {word++;charac++;}  
[A-Za-z][ " | . | , | " | ' ] [0-9] {charac++;}  
  
\n {line++;}  
  
. {charac++;}  
  
%%  
  
int yywrap({});  
  
int main(){  
  
yyin=fopen("myfile.txt","r");  
  
yylex();  
  
printf("This file contains...\n");  
  
printf("%d lines\n",line);  
  
printf("%d words\n",word);  
  
printf("In total %d characters.\n",charac);  
  
return 0;  
  
}
```

OUTPUT

```
vaibhav@vaibhav-virtual-machine:~$ lex ex3q5.l
vaibhav@vaibhav-virtual-machine:~$ gcc lex.yy.c -ll
vaibhav@vaibhav-virtual-machine:~$ ./a.out
This file contains...
2 lines
20 words
In total 71 characters.
vaibhav@vaibhav-virtual-machine:~$
```

FILE

