NAME: VAIBHAV BANKA

REG NO: 21BCE1955

EXERCISE 2

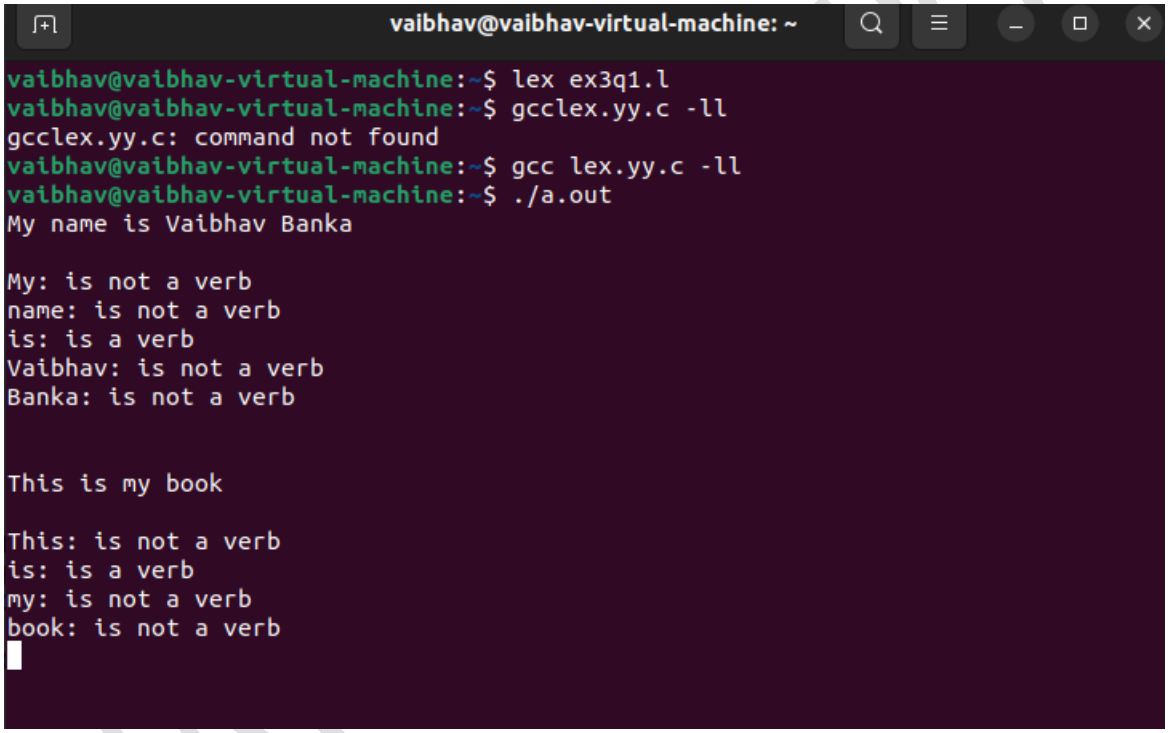
1 To check whether a word is verb or not in a given statement.

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



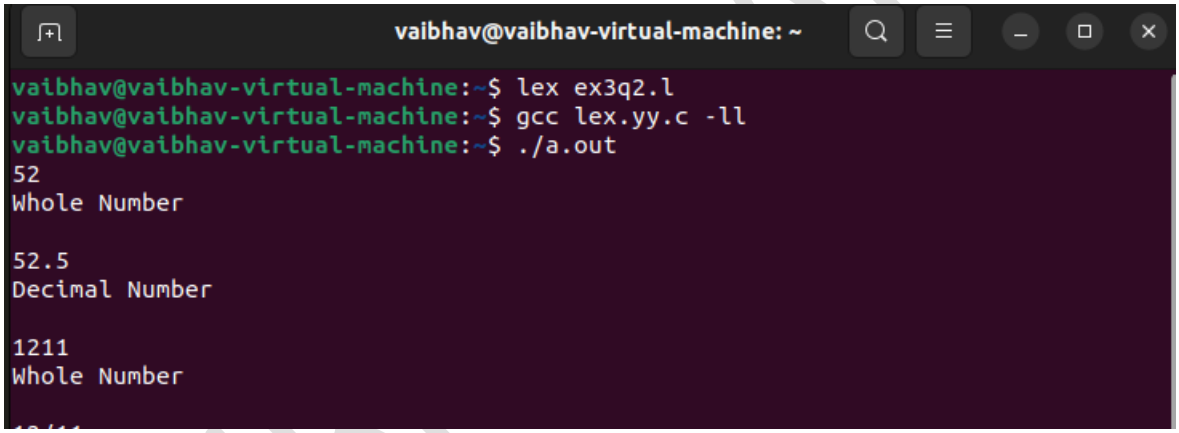
2. To check whether a given number is decimal or whole number

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



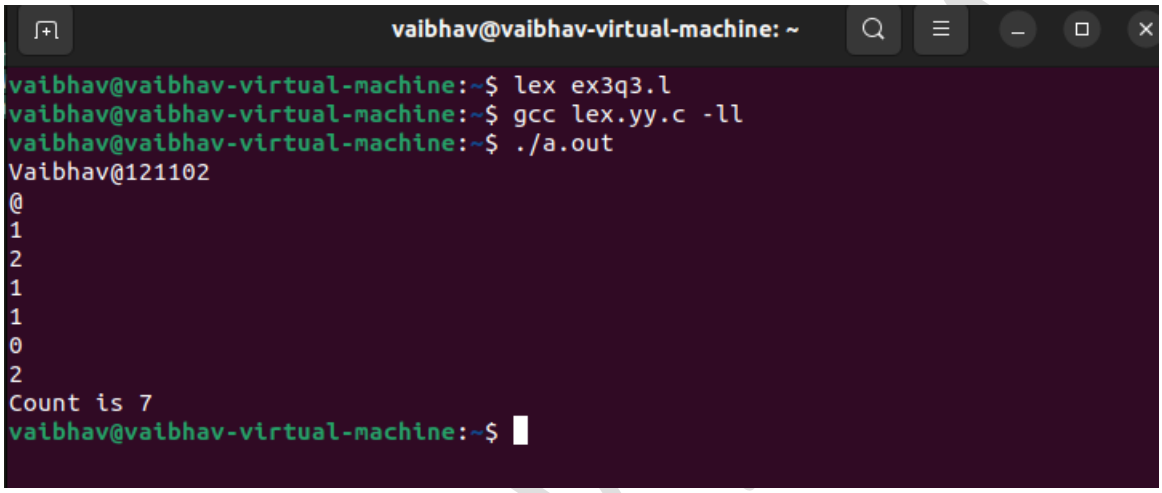
3. To count the characters other than letters

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



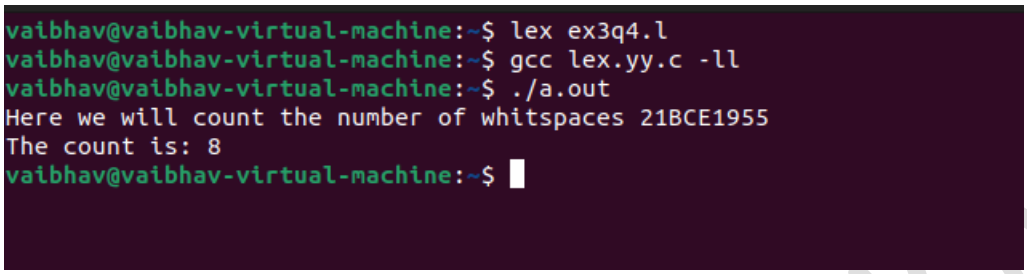
4. To count and print the number of whitespaces

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



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