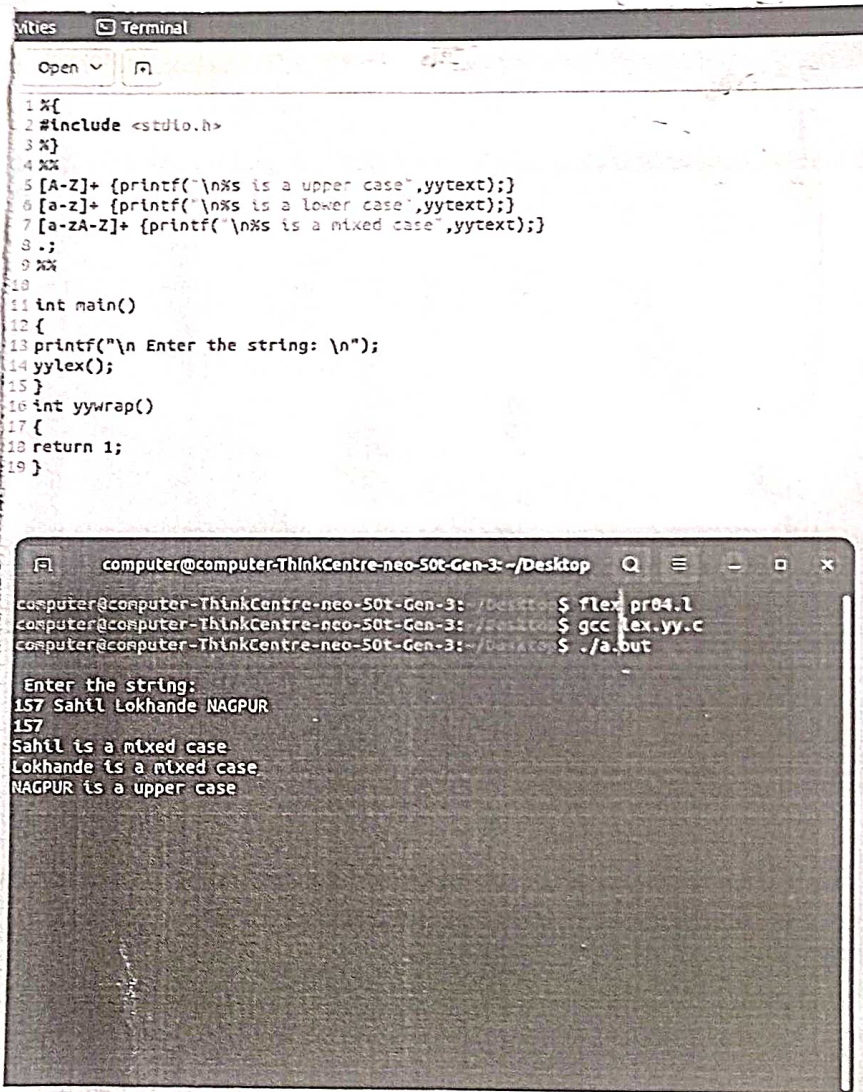


Practical No. 4

Aim: To demonstrate whether the string is in small case, upper case letter or contains mixed letter with a LEX TOOL.



```
1 %  
2 #include <stdio.h>  
3 %  
4 %%  
5 [A-Z]+ {printf("\n%s is a upper case",yytext);}   
6 [a-z]+ {printf("\n%s is a lower case",yytext);}   
7 [a-zA-Z]+ {printf("\n%s is a mixed case",yytext);}   
8 .;  
9 %%  
10  
11 int main()  
12 {  
13     printf("\n Enter the string: \n");  
14     yylex();  
15 }  
16 int yywrap()  
17 {  
18     return 1;  
19 }
```

```
computer@computer-ThinkCentre-neo-50t-Gen-3: ~/Desktop $ flex pr04.l  
computer@computer-ThinkCentre-neo-50t-Gen-3: ~/Desktop $ gcc lex.yy.c  
computer@computer-ThinkCentre-neo-50t-Gen-3: ~/Desktop $ ./a.out  
  
Enter the string:  
157 Sahil Lokhande NAGPUR  
157  
Sahil is a mixed case  
Lokhande is a mixed case  
NAGPUR is a upper case
```

Date :

Practical No. 4



Aim: To demonstrate whether the string is in small case letter, uppercase letter or contains mixed letter with a LEX Tool.

Theory: The key to solving this problem lies in the ASCII value of character. It is the simplest way to find out about a character. This problem is solved with the help of the following details:

- capital letter alphabets (A-Z) lie in the range 65-91 of ASCII values.
- small letter alphabet in the range 97-122 of the ASCII value
- any other ASCII value is non-alphabetic characters.

Algorithm:

In Rule section define [a-z]+

{

printf("In string contains only lower case letters");

}

[A-Z]+ {

printf("In string contains only upper case letter");

}

[a-zA-Z]+ {

printf("In string contain both lower and upper case letter");

}

computing Environment:

platform: ubuntu

Tool: FLEX

Expected output:

Input: ch = 'AA'

Output: string contain only upper letters

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Conclusion:

Thus, the 1st program to identify whether the string is in small case letter, uppercase letter or contain mixed letter.

Date :



Input : ch = 'a'

output : string contain only lowercase letters.

Input : ch = 'b'

output : string contains both lower & uppercase letters

Conclusion :

Thus, the lex program to identify whether the string is in small case letter, uppercase letter or contains mixed letter.

Viva Voce Questions:

Q1) What does the lex program contains?

→ A specification of lexical analyzer is prepared by creating a program lex.l in the lex languages. Then this lex is run then the lex compiler to produce a c prog - lex.yy.c.

Q2) What is Token?

→ A token is the smallest unit used in a C program.

Q3) What is lexeme, pattern?

→ Lexeme is a sequence of characters in the source code that are matched by given predefined languages rules for every lexeme to be specified as a valid token.

Q4) Pattern specifies a set of rules that a scanner follows to create a token.