Experiment 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 a character. It is the simplest way to find out about a character. This problem is solved with the help of the following detail:

- Capital letter Alphabets (A-Z) lie in the range 65-91 of the ASCII value
- Small letter Alphabets (a-z) lie in the range 97-122 of the ASCII value
- Any other ASCII value is a non-alphabetic character.

Algorithm:

```
In Rule section define [a-z]+
{
        printf("\n String contains only lower case letters ");
    }
[A-Z]+ {
        printf("\n String contains only upper case letters ");
    }

[a-zA-Z]+ {
        printf("\n String contains both lower & upper case letters");
    }
```

COMPUTING ENVRONMENT:

Platform: ubuntu
Tool: FLEX

Expacted Output:

Input: ch = 'AA'**Output:** String contains only uppercase letters

Input: ch = 'aa'**Output:** String contains only lowercase letters

Input: ch = 'bD' **Output:** String contains both lowe & 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:

1. What does the lex prg contain?

Answer:A specification of a lexical analyzer is prepared by creating a program lex.l in the

lex language. Then this lex is run thru the lex compiler to produce a c prg- lex.yy.c.

2. What is Token?

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

3. What is lexeme, Pattern?

Answer: Lexeme is a sequence of characters in the source code that are matched by given predefined language rules for every lexeme to be specified as a valid token.
Pattern specifies a set of rules that a scanner follows to create a token.