**Practical 4**

**Aim:** Conversion of lowercase to uppercase and vice versa.

**Theory:** In this practical, we aim to convert:

* Lowercase letters (a-z) into their corresponding uppercase form (A-Z)
* Uppercase letters (A-Z) into their corresponding lowercase form (a-z)

This conversion is done by manipulating the ASCII values of the characters:

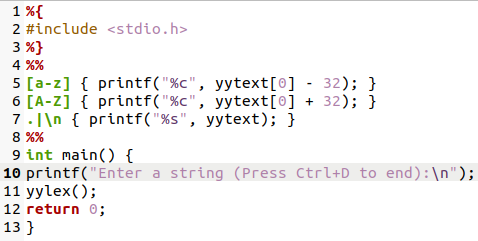
* The ASCII difference between uppercase and lowercase letters is 32.
* So, to convert lowercase to uppercase subtract 32
* To convert uppercase to lowercase, add 32

The LEX program uses regular expressions to match character ranges:

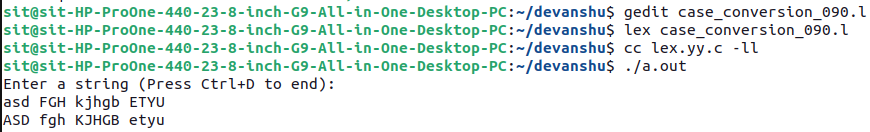
* [a-z] matches any lowercase character.
* [A-Z] matches any uppercase character.
* .| \n matches any other characters or newlines and prints them unchanged.

The actions are defined in curly braces {} and are executed when the respective pattern is matched. yytext is a global character pointer in LEX that points to the matched input string.

**Code:**



**Output:**



**Conclusion:** This practical demonstrates how LEX can be used for character manipulation based on pattern matching. It enhances understanding of ASCII operations, regular expressions, and the role of lexical analysers in compiler construction.