**G. H. RAISONI COLLEGE OF ENGG., NAGPUR**

**(An Autonomous Institute)**

**Department of Computer Science & Engg.**



**Date: 19-09-2021**

**Practical Subject: COMPILER DESIGN**

**Session: 2021-22**

**Student Details:**

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**Practical Details: Practical Number-10;**

| Practical Aim | Write a LEX program to perform Ceaser cipher |
| --- | --- |
| Theory & Syntax | Theory  LEX :  ⦁ Lex is a program that generates lexical analyzers. It is used with the YACC parser generator.  ⦁ The lexical analyzer is a program that transforms an input stream into a sequence of tokens.  ⦁ It reads the input stream and produces the source code as output through implementing the lexical analyzer in the C program.  ⦁ The function of Lex is as follows:  ⦁ Firstly, a lexical analyzer creates a program lex.1 in the Lex language. Then the Lex compiler runs the lex.1 program and produces a C program lex.yy.c.  ⦁ Finally C compiler runs the lex.yy.c program and produces an object program a.out.  ⦁ a.out is a lexical analyzer that transforms an input stream into a sequence of tokens.  Lex file format :  A Lex program is separated into three sections by %% delimiters. The formal Lex source is as follows:  { definitions }  %%  { rules }  %%  { user subroutines }  yylex:- here, each call to yylex()returns an integer value and assign to the variable num.  Logic :  This program takes a string from the user and changes it to encrypt a message  Procedure    STEP 1: Open Linux Terminal  STEP 2 : Create New File and Select the type of file Linux Terminal.  STEP 3 : Create New File : vi filename.l  STEP 4 : Press Insert Button On Keyboard  STEP 5: write code and after that press ESC  STEP 6: Now type :wq and hit enter  STEP 7: Execute following commands to execute FLEX file |
| Program | %%  [a-z] {char ch = yytext[0];  ch +=3;  if (ch> ‘z’) ch-= (‘z’+1 - ‘a’);  printf(“%c”, ch);  }  [A-Z] {char ch = yytext[0];  ch += 3;  if (ch> ‘Z’) ch-= (‘z’+1 - ‘A’);  printf(“%c”, ch);  }  %% |
| Output |  |
| Conclusion | Performed and executed lex program to perform Ceaser cipher. |