**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:**

| **Roll Number** | 01 |
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| **Name** | Anand Suralkar |
| **Semester** | 9th |
| **Section** | A |
| **Batch** | CSE |

**Practical Details: Practical Number-3;**

| Practical Aim | Finding the length of the largest string |
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| Theory & Syntax | yyleng()- yyleng() is a predefined variable in LEX programming language. It is used to calculate length of a string. yyleng is a variable of the type int and it stores the length of the lexeme pointed to by yytext.  Example:  /\* Declarations \*/  %%  /\* Rules \*/  %%  {number} printf("Number of digits = %d",yyleng);  Output:  Input: 1234  Output: Number of digits = 4  yylex()- yylex() is a function of return type int. LEX automatically defines yylex() in lex.yy.c but does not call it. The programmer must call yylex() in the Auxiliary functions section of the LEX program. LEX generates code for the definition of yylex() according to the rules specified in the Rules section.  Example:  /\* Declarations \*/  %%  {number} {return atoi(yytext);}  %%  int main()  {  int num = yylex();  printf("Found: %d",num);  return 1;  }  Output:  I: 42  O: Found: 42  Logic of program:  1.Create a files using “vi” command and “.l” extention  2.New window opens where we can write the code.  3. First declare variables to be executed in the initialization/declaration section which is counter and initialize it to 0.  4.In rule section, write the code which is to be implemented using if statement and yyleng() function.  5. In subroutine section, declare the main function and write print function.  6.Go to the main window and implement lex filename.l command and cc lex.yy.c -lfl command to convert .l extention file to .c entension file and also, check for errors.  7.Use /.a.out command to execute the output. |
| Program | %{  #include<stdio.h>  int counter = 0;  %}  %%  [a-z A-Z]+ {  if (yyleng > counter){  counter = yyleng;  }  }  %%  int main()  {  yylex();  printf("largest: %d", counter);  return 0;  } |
| Output |  |
| Conclusion | Performed and executed lex program to Find the length of the largest string |