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

**(An Autonomous Institute)**

**Department of Computer Science & Engg.**



**Date: 12-09-2021**

**Practical Subject: COMPILER DESIGN**

**Session: 2021-22**

**Student Details:**

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

**Practical Details: Practical Number-9;**

| Practical Aim | Write a program to convert octal to decimal number |
| --- | --- |
| Theory & Syntax | LEX  Lex is a program that generates lexical analyzer. It is used with 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 lexical analyzer creates a program lex.1 in the Lex language. Then 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 lexical analyzer that transforms an input stream into a sequence of tokens.  Specification of lex:  The lex code consists of three parts:-  • Definition section  • Rule section  • User subroutines  Program structure:  1 - get input from user in num and make integer variable decimal 0 by default  2 - make while loop for num!=0  3 - take modulus of octal number multiply by 8^i++ and add result to decimal  4 - make new num as num= num/ 10  5 - after loop print output saved in variable “decimal” |
| Program | %{  /\* Definition section \*/  #include<stdio.h>  #include<math.h>  int num, decimal,i;  char a[20];  %}  /\* Rule Section \*/  %%  [0-7]+ { num=atoi(yytext);  i=0;  while(num!=0)  {  decimal = decimal +(num % 10)\* pow(8, i++);  num= num/ 10;  }  }    .|\n ECHO;    %%    // driver code  int main()  {  yylex();  printf("\n octal %d to Decimal %d",num,decimal);  return 0;  }  int yywrap(){return(1);} |
| Output |  |
| Conclusion | Performed and executed a program to convert octal to decimal number |