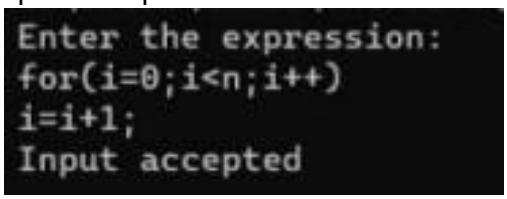
Name: Achyut Shukla Batch: CS – A1 PRN: 20070122005

Aim: LEX & YACC

Input & Output



Code: YACC

```
%{
#include <stdio.h>
#include <stdlib.h> int
yylex(void); void
yyerror(const char *s);
%}
%token ID NUM FOR LE GE EQ NE OR AND
%right "="
%left OR AND
%left '>' '<' LE GE EQ NE
%left '+' '-'
%left '*' '/'
%right UMINUS
%left '!'
%%
S : ST {printf("Input accepted\n"); exit(0);}
ST : FOR '(' E ';' E2 ';' E ')' DEF
;
DEF : '{' BODY '}'
| E';'
| ST
|
;
BODY : BODY BODY
| E ';'
| ST
|
;
```

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```
E : ID '=' E
| E '+' E
| E '-' E
| E '*' E
| E '/' E
| E '<' E
| E '>' E
| E LE E
| E GE E
| E EQ E |
E NE E
| E OR E
| E AND E
| E '+' '+'
| E '-' '-'
| ID
| NUM
;
E2 : E'<'E
| E'>'E
| E LE E
| E GE E
| E EQ E
| E NE E
| E OR E
| E AND E
; %%
void yyerror(const char *s) {
fprintf(stderr, "Error: %s\n", s); } int
main() { printf("Enter the
expression:\n"); yyparse();
} for.l (Flex
file):
%{
#include "for.tab.h"
%}
%option noyywrap alpha
[A-Za-z]
```

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Code - LEX

```
digit [0-9]
%%
[\t \n] for return
FOR;
{digit}+ return NUM; {alpha}({alpha}|{digit})* return ID;
"<=" return LE; ">="
return GE;
"==" return EQ;
"!=" return NE;
"||" return OR;
"&&" return AND;
. return yytext[0];
%%
```

Writeup: This program accepts for loop as input using LEX and YACC