



**SYMBIOSIS INTERNATIONAL (DEEMED  
UNIVERSITY)**

(Established under section 3 of the UGC Act 1956)

**Re - accredited by NAAC with 'A' Grade**

Founder: Prof. Dr. S. B. Mujumdar, M.Sc., Ph.D. (Awarded Padma Bhushan and Padma  
Shri by President of India)

---

**Compiler Construction Lab 8**

Name: Naivedya Rai	Roll No./PRN: 20070122083	Date: 20/07/23
Class: CS	Division: CS-B	Batch: B1

Desk calculator with error recovery

**Code:**

**Lex:**

```
%{
#include <stdio.h>
#include "as8.tab.h"
extern int yylval;
}%

%%
[0-9]+ {
    yylval = atoi(yytext);
    return NUMBER;
}

[\t] ;
[\n] return 0;
. return yytext[0];
%%

int yywrap() {
    return 1;
}
```

## **Yacc:**

```
%{
#include <stdio.h>
#include <stdlib.h>
}%

%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
    |
;

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();
}

```

### Output:

```

Enter Any Arithmetic Expression which can have operations Addition, Subtraction, Multiplication, Division, Modulus, and
Round brackets:
((2+2)*(4/2)-1)
Result=7
Entered arithmetic expression is Valid

```