

NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR

Cachar, Assam

B.Tech. VIth Sem

Subject Code: CS-316

Subject Name: Compiler Design Lab

Submitted By:

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Branch : CSE – B

1. Write a YACC program for conversion of Infix to Postfix expression.

→ CODE:

LEX (lab8.l)

```
%{
    #include <stdio.h>
    #include <stdlib.h>
    #include "lab8.tab.h"
    extern int yylval;
}%

%%
[a-zA-Z]([A-Za-z]|[0-9])* {yylval = yytext [0]; return ID;}
[0-9]+ {yylval = yytext [0]; return ID;}
[ \t] {}
[\n] {return 0;}
. {return yytext [0];}
%%

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

YACC (lab8.y)

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

%token ID
%left '+' '-'
%left '*' '/'
%right NEGATIVE

%%
Start: Expression {printf ("\n");}
;
Expression: Expression '+' Expression {printf ("+");}
| Expression '*' Expression {printf ("*");}
| Expression '-' Expression {printf ("-");}
| Expression '/' Expression {printf ("/");}
| '(' Expression ')'
| '-' Expression %prec NEGATIVE {printf ("-");}
| ID {printf ("%c", yylval);}
;
```

```

%%

int yyerror (char *msg) {
    fprintf (stderr, "%s\n", msg);
    exit (1);
}

int main () {
    printf ("ENTER INFIX EXPRESSION: ");
    yyparse ();
    return 0;
}

```

OUTPUT:

```

Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS D:\Documents\NITS\Semester VI\LAB CS316 Compiler Design\LAB VIII> yacc -d lab8.y
PS D:\Documents\NITS\Semester VI\LAB CS316 Compiler Design\LAB VIII> lex lab8.l
PS D:\Documents\NITS\Semester VI\LAB CS316 Compiler Design\LAB VIII> cc lex.yy.c lab8.tab.c
PS D:\Documents\NITS\Semester VI\LAB CS316 Compiler Design\LAB VIII> ./a.exe
ENTER INFIX EXPRESSION: a + b * c
abc*+
PS D:\Documents\NITS\Semester VI\LAB CS316 Compiler Design\LAB VIII> ./a.exe
ENTER INFIX EXPRESSION: a+b*c
abc*+
PS D:\Documents\NITS\Semester VI\LAB CS316 Compiler Design\LAB VIII> ./a.exe
ENTER INFIX EXPRESSION: 2 + 3 * 4
234*+
PS D:\Documents\NITS\Semester VI\LAB CS316 Compiler Design\LAB VIII>

```