[2CEIT701 COMPILER DESIGN]

Practical:8

Aim: Write a program to convert infix to postfix using Lex and YACC.

Submitted By: Kashyap Raval
Enrollment number: 19012531016
Batch: CEIT-C AI

Practical-8

Aim: Write a program to convert infix to postfix using Lex and YACC.

Code:

practical8.y

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

%token ID
%left '+' '-'
%left '*' '/'
%left UMINUS

%%

S : E
E : E'+'{A1();}T{A2();}
| E'-'{A1();}T{A2();}
| T
;
T : T'*'{A1();}F{A2();}
| T'/'{A1();}F{A2();}
| F
;
F : '('E{A2();}')'
| '-'{A1();}F{A2();}
| ID{A3();}
;

%%

#include"lex.yy.c"
char st[100];
int top=0;
```

```
int main()
{
        printf("Enter infix expression: ");
        yyparse();
        printf("\n");
        return 0;
}
A1()
{
        st[top++]=yytext[0];
}


A2()
{
        printf("%c", st[--top]);
}


A3()
{
        printf("%c", yytext[0]);
}
```

practical8.l

```
%{
%}
ALPHA [A-Z a-z]
DIGIT [0-9]

%%
{ALPHA}({ALPHA}|{DIGIT})* return ID;
{DIGIT}+                          {yylval=atoi(yytext); return ID;}
[\n \t]                  yyterminate();
.                                        return yytext[0];
%%
```

Output:

```
"p8.l" [New] 12L, 179C written
19012531016@telnetserver:~$ lex p8.l
19012531016@telnetserver:~$ yacc -d p8.y
p8.y:28 parser name defined to default :"parse"
19012531016@telnetserver:~$ gcc y.tab.c -lfl -ly
```

```
19012531016@telnetserver:~$ ./a.out
Enter infix expression: a*b+c
ab*c+
19012531016@telnetserver:~$ ./a.out
Enter infix expression: abd*+
parse error
a
19012531016@telnetserver:~$
```