

System Software and Compiler Design

Lab Assignment 7

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Panel: B

Batch: B2

Code:

calc.l

```
%{
#include "y.tab.h"
extern int yylval;
%}

%%

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

```
\n { return EOL; }
. { return yytext[0]; }

%%
```

calc.y

```
%{
#include <stdio.h>
extern int yylex();
%}

%token NUMBER EOL
%left '-' '+'
%left '*' '/'

%%

calc: /* empty string */
| calc line
;

line: EOL
| exp EOL { printf("%d\n", $1); }
;

exp: NUMBER
| exp '+' exp { $$ = $1 + $3; }
| exp '-' exp { $$ = $1 - $3; }
| exp '*' exp { $$ = $1 * $3; }
```

```
| exp '/' exp { $$ = $1 / $3; }  
| '(' exp ')' { $$ = $2; }  
;  
  
%%  
  
int main(void) {  
    yyparse();  
}  
  
int yyerror(char *s) {  
    fprintf(stderr, "error: %s\n", s);  
}
```

Input:

1. $2+3*4$
2. $(2+3)*4$

Output:

1. 14
2. 20

```
tusharmittal@LAPTOP-ONVQFQKH:/mnt/c/Users/Tushar Mittal/Desktop/ssc/Assignment8$ flex calc.l
tusharmittal@LAPTOP-ONVQFQKH:/mnt/c/Users/Tushar Mittal/Desktop/ssc/Assignment8$ byacc -d calc.y
tusharmittal@LAPTOP-ONVQFQKH:/mnt/c/Users/Tushar Mittal/Desktop/ssc/Assignment8$ gcc -o calc y.tab.c lex.yy.c -ll
tusharmittal@LAPTOP-ONVQFQKH:/mnt/c/Users/Tushar Mittal/Desktop/ssc/Assignment8$ ./calc
2+3*4
14
(2+3)*4
20
^C
tusharmittal@LAPTOP-ONVQFQKH:/mnt/c/Users/Tushar Mittal/Desktop/ssc/Assignment8$
```