

Name: Pradyumn R Pai

Roll No: 50

Class: CS7A

PROGRAM CODE

calc.lex:

```
%{  
#include <stdio.h>  
#include <stdlib.h>  
#include "y.tab.h"  
#include <string.h>  
  
extern int yylval;  
  
%}  
  
%option noyywrap  
  
%%  
  
[0-9]+ { yylval = atoi(yytext); return IDENTIFIER; }  
[+\\-*/()\\n] { return yytext[0]; }  
. { printf("Invalid character: %s\\n", yytext); return INVALID; }  
  
%%
```

calc.y:

```
%{  
#include <stdio.h>  
  
#define YYSTYPE int  
  
extern YYSTYPE yylval;  
  
%}  
  
%token IDENTIFIER  
%token INVALID  
  
%%  
  
program: line  
       | program line;  
  
line: exp "\\n" {printf("Result: %d\\n", $1);}
```

```
exp: exp "+" term {$$ = $1+$3;}
```

```
| exp "-" term {$$ = $1-$3;}
```

```
| term {$$ = $1;};
```

```
term: term "*" factor {$$ = $1*$3;};
```

```
| term "/" factor {$$ = $1/$3;};
```

```
| factor {$$ = $1;};
```

```
factor: "(" exp ")" {$$ = $2;}
```

```
| IDENTIFIER {$$ = $1;};
```

```
%%
```

```
void yyerror(char *s){
```

```
    printf("Error: %s\n",s);
```

```
}
```

```
int main() {
```

```
    yyparse();
```

```
    return 0;
```

```
}
```

```
int yywrap() {
```

```
    return 1;
```

```
}
```

OUTPUT:

```
15-3*4
```

```
Result: 3
```

```
20/4+7
```

```
Result: 12
```

```
1-1-1
```

```
Result: -1
```

```
10+20/(5-3)
```

```
Result: 20
```