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## LEX PROGRAM - DESK CALCULATOR WITH ERROR RECOVERY

A screenshot of a gedit text editor window titled '\*desk.l (~/Desktop) - gedit'. The editor contains the following Lex code:

```
DIGIT [0-9]+\.[0-9]*|[0-9]+\.[0-9]*+  
  
%%  
  
[  
{DIGIT} {yylval=atof(yytext);return NUM;}  
\n|. {return yytext[0];}
```

The code defines a regular expression for digits and decimal numbers, and two actions: one for the DIGIT token and one for the newline or any other character.

## YACC PROGRAM - DESK CALCULATOR WITH ERROR RECOVERY

A screenshot of a gedit text editor window titled '\*desk.y (~/Desktop) - gedit'. The editor contains the following YACC code:

```
%{  
#include<ctype.h>  
#include<stdio.h>  
#define YYSTYPE double  
%}  
  
%token NUM  
  
%left '+' '-'  
%left '*' '/'  
%right UMINUS  
  
%%  
  
S: S E '\n' {printf("Answer:%g\nEnter:\n", $2);}  
| S '\n'  
| error '\n' {yyerror("Error: Enter once more...\n");yyerror;}  
;  
  
E: E '+' E {$$ = $1 + $3;}  
| E '-' E {$$ = $1 - $3;}  
| E '*' E {$$ = $1 * $3;}  
| E '/' E {$$ = $1 / $3;}  
| '(' E ')' {$$ = $2;}  
| '-' E % prec UMINUS {$$ = -$2;}  
| NUM  
;  
  
%%
```

The code defines the grammar for a desk calculator, including tokens, non-terminals, and actions for parsing expressions and handling errors.

## PROGRAM FILES



## OUTPUT

```
al student@student-VirtualBox: ~/Desktop
student@student-VirtualBox:~$ cd Desktop
student@student-VirtualBox:~/Desktop$ lex desk.l
student@student-VirtualBox:~/Desktop$ yacc desk.y
student@student-VirtualBox:~/Desktop$ gcc y.tab.c -ll -ly
y.tab.c: In function 'yyparse':
y.tab.c:1130:16: warning: implicit declaration of function 'yylex' [-Wimplicit-f
unction-declaration]
    ychar = yylex ();
               ^
desk.y:19:7: warning: implicit declaration of function 'yyerror' [-Wimplicit-fun
ction-declaration]
    | error '\n' { yyerror("Error: Enter once more...\n");yyerrok; }
      ^
student@student-VirtualBox:~/Desktop$ ./a.out
Enter the expression: 58*5-3+
syntax error
Error: Enter once more...

58*5-3+5
Answer: 292
Enter:

```

```
    printf("Enter the expression: ");
    yyparse();
}

/*void yyerror (char const *s) {
    fprintf(stderr, "%s\n", s);
}*/
```