

**Compiler Construction Lab**

**Practical 8**

**Submitted To:**

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**PRACTICAL 8**

**AIM - Desk calculator with error recovery.**

| **cal.l**  %{  #include "y.tab.h"  #include <stdlib.h>  %}  %%  [0-9]+ { yylval = atoi(yytext); return NUMBER; }  [+\-\*/\n()] { return yytext[0]; }  . { return yytext[0]; }  %%  int yywrap() {  return 1;  }    **cal.y**  %{  #include <stdio.h>  #include <stdlib.h>  int yylex();  int yyerror(char \*s);  %}  %token NUMBER  %left '+' '-'  %left '\*' '/'  %%  input : /\* empty \*/  | input line  ;  line : expr '\n' { printf("Result = %d\n", $1); }  | error '\n' { printf("Syntax Error! Please re-enter.\n"); yyerrok; }  ;  expr : expr '+' expr { $$ = $1 + $3; }  | expr '-' expr { $$ = $1 - $3; }  | expr '\*' expr { $$ = $1 \* $3; }  | expr '/' expr { if ($3 == 0) { printf("Error: Division by zero!\n"); $$ = 0; } else $$ = $1 / $3; }  | '(' expr ')' { $$ = $2; }  | NUMBER  ;  %%  int main() {  printf("Desk Calculator: Enter expressions (Ctrl+C to exit)\n");  yyparse();  return 0;  }  int yyerror(char \*s) {  return 0; // Error message already printed in grammar  } |
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| suhami@LAPTOP-OTTF73G6:~/CC$ yacc -d cal\_084.y  suhami@LAPTOP-OTTF73G6:~/CC$ lex cal\_084.l  suhami@LAPTOP-OTTF73G6:~/CC$ gcc y.tab.c lex.yy.c -o calssd -lfl  suhami@LAPTOP-OTTF73G6:~/CC$ ./calssd  Desk Calculator: Enter expressions (Ctrl+C to exit)  5+3  Result = 8  5+0/6  Result = 5  20/4  Result = 5  210/10+10  Result = 31  1+3-5/7\*9  Result = 4  1+-5  Syntax Error! Please re-enter.  1\*\*9  Syntax Error! Please re-enter.  1\*9  Result = 9  ^C |
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