

=====Lexer.L=====

```
%{
    #include "parser.tab.h"
}%

%%

"id"      { return ID; }
"+"       { return PLUS; }
"("       { return LPAREN; }
")"       { return RPAREN; }
"$"       { return DOLLAR; }
[ \t\n]+  ; // Ignore whitespaces
.         { printf("Unexpected character: %s\n", yytext); }

%%
```

```
int yywrap() {
    return 1;
}
```

=====Parser.Y=====

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

    // Declare the lexical analyzer function
    int yylex(void);
    void yyerror(const char *s);
}%

%token ID PLUS LPAREN RPAREN DOLLAR

%%

S : E DOLLAR { printf("ACCEPT\n"); }
  ;

E : E PLUS T { printf("Reduce by rule: E → E + T\n"); }
  | T       { printf("Reduce by rule: E → T\n"); }
  ;

T : LPAREN E RPAREN { printf("Reduce by rule: T → (E)\n"); }
  | ID              { printf("Reduce by rule: T → id\n"); }
  ;

%%
```

```
int main() {
    printf("Enter an expression to parse (end with $): ");
    return yyparse(); // Start the parser
}
```

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

OUTPUT:

```
Enter an expression to parse (end with $): id+id+id$
Reduce by rule: T → id
Reduce by rule: E → T
Reduce by rule: T → id
Reduce by rule: E → E + T
Reduce by rule: T → id
Reduce by rule: E → E + T
ACCEPT
```