## MiniC grammer

```
→ decl list
program
decl_list
                      → decl_list decl | decl
                      → var_decl | fun_decl
decl
                      → type_spec IDENT; | type_spec IDENT [];
var_decl
                      → VOID | BOOL | INT | FLOAT
type_spec
fun_decl
                      → type_spec IDENT ( params ) compound_stmt
                      → param_list | VOID
params
                      → param list, param | param
param_list
                      → type_spec IDENT | type_spec IDENT [ ]
param
                      \rightarrow stmt_list stmt | \epsilon
stmt_list
                      → expr_stmt | compound_stmt | if_stmt | while_stmt |
stmt
                               return_stmt | break_stmt
                      \rightarrow expr; |;
expr_stmt
                      → WHILE ( expr ) stmt
while_stmt
                      → { local_decls stmt_list }
compound_stmt
local_decls
                      \rightarrow local decls local decl | \epsilon
local_decl
                      → type_spec IDENT; | type_spec IDENT [];
                      → IF ( expr ) stmt | IF ( expr ) stmt ELSE stmt
if_stmt
                      → RETURN ; | RETURN expr ;
return_stmt
                        \rightarrow IDENT = expr | IDENT [ expr ] = expr
expr
                              \rightarrow expr OR expr
                              → expr EQ expr | expr NE expr
                              → expr LE expr | expr < expr | expr GE expr | expr > expr
                              → expr AND expr
                              → expr + expr | expr - expr
                              → expr * expr | expr / expr | expr % expr
                              \rightarrow! expr | - expr | + expr
                              \rightarrow ( expr )
                              → IDENT | IDENT [ expr ] | IDENT ( args ) | IDENT . size
                              → BOOL_LIT | INT_LIT | FLOAT_LIT | NEW type_spec [ expr ]
               → arg_list , expr | expr
arg_list
args
                      \rightarrow arg_list | \epsilon
```