

start → definitions EOF

definitions → definition*

definition → definitionVariable

```
| 'struct' IDENT '{' structFields '}' ';'
| IDENT '(' definitionFunctionParams ')' '{' definitionVariables sentences '}'
| IDENT '(' definitionFunctionParams ')' ':' type '{' definitionVariables sentences
'}
```

definitionVariables → definitionVariable*

definitionVariable → 'var' IDENT ':' type ';' ;

structFields → structField*

structField → IDENT ':' type ';' ;

definitionFunctionParams → (definitionFunctionParam (',' definitionFunctionParam)*)?

definitionFunctionParam → IDENT ':' type

type → 'int'

```
| 'float'
| 'char'
| '[' INT_CONSTANT ']' type
| IDENT
```

sentences → sentence*

sentence → expression '=' expression ';' ;

```
| 'return' expression ';'
| 'return' ';'
| 'print' expression ';'
| 'print' ';'
| 'printsp' expression ';'
| 'printsp' ';'
| 'println' expression ';'
| 'println' ';'
| 'read' expression ';'
| 'while' '(' expression ')' '{' sentences '}'
| 'if' '(' expression ')' '{' sentences '}'
| 'if' '(' expression ')' '{' sentences '}' 'else' '{' sentences '}'
| IDENT '(' callFunctionParams ')' ';' ;
```

callFunctionParams → (expression (',' expression)*)?

expression → '(' expression ')' ;

```
| expression '[' expression ']'
| expression '.' IDENT
| IDENT
| '<' type '>' '(' expression ')'
| expression ('*' | '/' | '%') expression
| expression ('+' | '-') expression
| expression ('<' | '>' | '<=' | '>=') expression
| expression ('==' | '!=') expression
| expression '&&' expression
| expression '||' expression
| '!' expression
| IDENT '(' callFunctionParams ')'
| INT_CONSTANT
| REAL_CONSTANT
| CHAR_CONSTANT
```