

Rules

- Variable *shadowing* is **not** allowed. Having a variable with the same name in an inner scope is invalid, unless the variable is first declared in the inner scope.
- You must terminate a statement with a semicolon, *unless* that statement **ends** with a scope.
- Single line comments are denoted by `//` and Multi-line comments are denoted with `/* */`

Notation

$*$ = 0 or more

ϵ = Empty string / Null

Producers

$$\begin{aligned}
 [Prog] &\rightarrow [Statement]^* \\
 [Statement] &\rightarrow \begin{cases} \text{exit}([Expr]); \\ \text{set ID} = [Expr] \\ \text{set ID} = [String] \\ \text{if}([Expr])[Scope][AfterIf] \\ [Scope] \end{cases} \\
 [Scope] &\rightarrow \{[Stmt]^*\} \\
 [AfterIf] &\rightarrow \begin{cases} \text{elseif}([Expr])[Scope][AfterIf] \\ \text{else}([Expr])[Scope] \\ \epsilon \end{cases} \\
 [Expr] &\rightarrow \begin{cases} [Term] \\ [BinaryExpr] \end{cases} \\
 [BinaryExpr] &\rightarrow \begin{cases} [Expr] \times [Expr] & precedence = 1 \\ [Expr] \div [Expr] & precedence = 1 \\ [Expr] \% [Expr] & precedence = 1 \\ [Expr] + [Expr] & precedence = 0 \\ [Expr] - [Expr] & precedence = 0 \end{cases} \\
 [Term] &\rightarrow \begin{cases} \text{int.lit} \\ \text{ID} \\ ([Expr]) \end{cases}
 \end{aligned}$$