

$$[\text{Prog}] \rightarrow [\text{Stmt}]^*$$

$$[\text{Stmt}] \rightarrow \begin{cases} \text{Let Ident} = [\text{Expr}]; \\ \text{Ident} = [\text{Expr}]; \\ \text{Ident} ++; \\ \text{Ident} --; \\ \text{Ident} += [\text{Expr}]; \\ \text{Ident} -= [\text{Expr}]; \\ \text{If } ([\text{Expr}])[\text{Scope}][\text{Else}]^*; \\ \text{While } ([\text{Expr}])[\text{Scope}]; \\ \text{Func Ident}()[\text{Scope}]; \\ [\text{Scope}] \end{cases}$$

$$[\text{Scope}] \rightarrow \{[\text{Stmt}]^*\}$$

$$[\text{Else}] \rightarrow \text{Else } [\text{Scope}];$$

$$[\text{Expr}] \rightarrow \begin{cases} [\text{Term}] \\ [\text{BinExpr}] \end{cases}$$

$$[\text{BinExpr}] \rightarrow \begin{cases} [\text{Expr}] + [\text{Expr}] \\ [\text{Expr}] - [\text{Expr}] \\ [\text{Expr}] * [\text{Expr}] \\ [\text{Expr}] / [\text{Expr}] \\ [\text{Expr}] ** [\text{Expr}] \\ [\text{Expr}] == [\text{Expr}] \\ [\text{Expr}] != [\text{Expr}] \\ [\text{Expr}] > [\text{Expr}] \\ [\text{Expr}] < [\text{Expr}] \\ [\text{Expr}] >= [\text{Expr}] \\ [\text{Expr}] <= [\text{Expr}] \end{cases}$$

$$[\text{Terms}] \rightarrow \begin{cases} \text{Int_lit} \\ \text{Ident} \\ \text{Paren} \end{cases}$$

$$[\text{Paren}] \rightarrow [\text{Expr}]^*;$$