

# 1 CHANGE LOG v1.8

Prazdný soubor = syntaktická chyba.

## 2 LL Grammar IFJ17 (v1.8)

- (1)  $Line \rightarrow GlobalStmt \ ScopeStmt \ LineEnd$
- (2)  $LineEnd \rightarrow \mathbf{EOL} \ LineEnd$
- (3)  $\quad \quad \quad | \ \varepsilon$
- (4)  $GlobalStmt \rightarrow FuncDecl \ \mathbf{EOL} \ GlobalStmt$
- (5)  $\quad \quad \quad | \ FuncDef \ \mathbf{EOL} \ GlobalStmt$
- (6)  $\quad \quad \quad | \ SharedVar \ \mathbf{EOL} \ GlobalStmt$
- (7)  $\quad \quad \quad | \ \mathbf{EOL} \ GlobalStmt$
- (8)  $\quad \quad \quad | \ \varepsilon$
- (9)  $InnerStmt \rightarrow VarDecl$
- (10)  $\quad \quad \quad | \ Assignment$
- (11)  $\quad \quad \quad | \ IfStmt$
- (12)  $\quad \quad \quad | \ ScopeStmt$
- (13)  $\quad \quad \quad | \ DoStmt$
- (14)  $\quad \quad \quad | \ ForStmt$
- (15)  $\quad \quad \quad | \ PrintStmt$
- (16)  $\quad \quad \quad | \ InputStmt$
- (17)  $\quad \quad \quad | \ ReturnStmt$
- (18)  $\quad \quad \quad | \ ExitStmt$
- (19)  $\quad \quad \quad | \ ContinueStmt$
- (20)  $\quad \quad \quad | \ \varepsilon$
- (21)  $StmtSeq \rightarrow InnerStmt \ \mathbf{EOL} \ StmtSeq$
- (22)  $\quad \quad \quad | \ \varepsilon$
- (23)  $VarDecl \rightarrow \mathbf{DIM} \ VarDef$
- (24)  $\quad \quad \quad | \ \mathbf{STATIC} \ VarDef$

(25) *SharedVar* → **DIM SHARED** *VarDef*  
 (26) *VarDef* → **ID AS** *Type InitOpt*  
 (27) *InitOpt* → '=' *Expression*  
 (28) |  $\epsilon$   
 (29) *FuncDecl* → **DECLARE FUNCTION ID** '(' *Params* ')' **AS** *Type*  
 (30) *Type* → **INTEGER**  
 (31) | **DOUBLE**  
 (32) | **STRING**  
 (33) | **BOOLEAN**  
 (34) *FuncDef* → **FUNCTION ID** '(' *Params* ')' **AS** *Type* **EOL** *StmtSeq* **END FUNCTION**  
 (35) *ParamDecl* → **ID AS** *Type*  
 (36) *Params* → *ParamDecl ParamsNext*  
 (37) |  $\epsilon$   
 (38) *ParamsNext* → ', ' *ParamDecl ParamsNext*  
 (39) |  $\epsilon$   
 (40) *ReturnStmt* → **RETURN** *Expression*  
 (41) *Assignment* → **ID AssignOperator** *Expression*  
 (42) *InputStmt* → **INPUT ID**  
 (43) *PrintStmt* → **PRINT** *Expression* ';' *ExpressionList*  
 (44) *ExpressionList* → *Expression* ';' *ExpressionList*  
 (45) |  $\epsilon$   
 (46) *ScopeStmt* → **SCOPE** **EOL** *StmtSeq* **END SCOPE**  
 (47) *IfStmt* → **IF** *Expression* **THEN** **EOL** *StmtSeq* *IfStmtElseif* *IfStmtElse* **END IF**  
 (48) *IfStmtElseif* → **ELSEIF** *Expression* **THEN** **EOL** *StmtSeq* *IfStmtElseif*  
 (49) |  $\epsilon$   
 (50) *IfStmtElse* → **ELSE** **EOL** *StmtSeq*  
 (51) |  $\epsilon$   
 (52) *DoStmt* → **DO** *DoStmtEnd*  
 (53) *DoStmtEnd* → *TestType* *Expression* **EOL** *StmtSeq* **LOOP**  
 (54) | **EOL** *StmtSeq* **LOOP** *TestType* *Expression*

(55)  $TestType \rightarrow \mathbf{WHILE}$   
 (56)  $\quad \quad \quad | \mathbf{UNTIL}$   
 (57)  $ExitStmt \rightarrow \mathbf{EXIT} \ LoopType$   
 (58)  $ContinueStmt \rightarrow \mathbf{CONTINUE} \ LoopType$   
 (59)  $Looptype \rightarrow \mathbf{DO}$   
 (60)  $\quad \quad \quad | \mathbf{FOR}$   
 (61)  $ForStmt \rightarrow \mathbf{FOR} \ ID \ TypeOpt \ '=' \ Expression \ \mathbf{TO} \ Expression \ StepOpt \ \mathbf{EOL} \ StmtSeq \ \mathbf{NEXT} \ IdOpt$   
 (62)  $TypeOpt \rightarrow \mathbf{AS} \ Type$   
 (63)  $\quad \quad \quad | \varepsilon$   
 (64)  $StepOpt \rightarrow \mathbf{STEP} \ Expression$   
 (65)  $\quad \quad \quad | \varepsilon$   
 (66)  $IdOpt \rightarrow \mathbf{ID}$   
 (67)  $\quad \quad \quad | \varepsilon$   
 (68)  $AssignOperator \rightarrow '='$   
 (69)  $\quad \quad \quad | '- = '$   
 (70)  $\quad \quad \quad | '+ = '$   
 (71)  $\quad \quad \quad | '* = '$   
 (72)  $\quad \quad \quad | '\backslash = ' \ \text{TOKEN\_DIVI\_ASIGN}$   
 (73)  $\quad \quad \quad | '/ = ' \ \text{TOKEN\_DIVR\_ASIGN}$   
 (74) = number of rules

### 3 Komentář

- *Neterminály*: Psány kurzívou (*Global*, *ScopeStmt*, ...).
- **TERMINÁLY(TOKENY)**: Terminály (**IF**, **LOOP**, ...) psány VELKÝMI PÍSMENY a vyznačeny **tučně**. Nepísmenné terminály ('=', '(', ')', ...) vyznačeny 'uvozovkami'.