Mini PASCAL Grammar

Key	
ALL_CAPS	Non-Terminals
lower case and symbols	Terminals (Tokens)
│	grammar metasymbol **OR** A → b | c == A → b A → c

0. PROGRAM → **program id ;** DECLARATIONS SUBPGM_DCLS CMPD_STMT **.**

    ==period ↑==

1. ID_LIST → **id** │ ID_LIST **, id**

2. DECLARATIONS → DECLARATIONS **var** ID_LIST **:** TYPE **;** │ ∈

3. TYPE → STD_TYPE │ **array [int_lit .. int_lit] of** STD_TYPE

4. STD_TYPE → **integer** │ **real** │ **string**

5. SUBPGM_DCLS → SUBPGM_DCLS SUBPGM_DCL **;** │ ∈

6. SUBPGM_DCL → SUBPGM_HEAD   DECLARATIONS   CMPD_STMT

7. SUBPGM_HEAD → **function id** ARGS **:** STD_TYPE **;** │
                 procedure id ARGS **;**

8. ARGS → **(** PARM_LIST **)** │ ∈

9. PARM_LIST → ID_LIST **:** TYPE │ PARM_LIST **;** ID_LIST **:** TYPE

10. CMPD_STMT → **begin** OPT_STMTS **end**

11. OPT_STMTS → STMT_LIST │ ∈

12. STMT_LIST → STMT │ STMT_LIST **;** STMT

13. STMT →   VARIABLE **:=** EXPR |
        PROC_STMT |
        CMPD_STMT |
        if EXPR **then** STMT **else** STMT |
        while EXPR **do** STMT |
        for VARIABLE **:=** EXPR END_FOR

14. END_FOR → **to** EXPR **do** | **downto** EXPR **do**

15. **VARIABLE** → **id** VAR_END

16. **VAR_END** → **[** EXPR **]** | $\in$

17. **PROC_STMT** → **id** PROC_STMT_END

18. **PROC_STMT_END** → **(** EXPR_LIST **)** | $\in$

19. EXPR_LIST → EXPR | EXPR_LIST **,** EXPR

20. EXPR → SIMPLE_EXPR EXPR_END

21. EXPR_END → RELOP SIMPLE_EXPR | $\in$

22. **RELOP** → ⟨ | ⟨= | ⟩ | ⟩= | ⟨⟩ | =

23. SIMPLE_EXPR → TERM | SIGN TERM | SIMPLE_EXPR ADD_OP TERM

24. ADD_OP → + | –

25. TERM → FACTOR | TERM MULOP FACTOR

26. MUL_OP → ∗ | /

27. FACTOR → **id** FACTOR_END |
        int_lit |
        real_lit |
        (EXPR **)** |
        not FACTOR

28. FACTOR_END → **(** EXPR_LIST **)** | $\in$

29. SIGN → + | –