1. PROGRAM -> **program** VAR\_DEFINITIONS; STATEMENTS **end** FUNC\_DEFINITIONS

2.VAR\_DEFINITIONS -> VAR\_DEFINITION VAR\_DEFINITIONS\_t

2.1. VAR\_DEFINITIONS\_t -> ;VAR\_DEFINITIONS | ɛ

3. VAR\_DEFINITION - > TYPE VARIABLES\_LIST

4. TYPE -> **real** | **integer**

5. VARIABLES\_LIST - > VARIABLE VARIABLES\_LIST\_t

5.1. VARIABLES\_LIST\_t -> ,VARIABLE VARIABLES\_LIST\_t | ɛ

6. VARIABLE -> id VARIABLE\_t

6.1 VARIABLE\_t -> ɛ | [int\_number]

7. FUNC\_DEFINITIONS -> FUNC\_DEFINITION FUNC\_DEFINITIONS\_t

7.1 FUNC\_DEFINITIONS\_t -> FUNC\_DEFINITION FUNC\_DEFINITIONS\_t | ɛ

8. FUNC\_DEFINITION -> RETURNED\_TYPE id (PARAM\_DEFINITIONS) BLOCK

9. RETURNED\_TYPE -> **void** | TYPE

10. PARAM\_DEFINITIONS -> ɛ | VAR\_DEFINITIONS

11. STATEMENTS -> STATEMENT; STATEMENTS\_t

11.1 STATEMENTS\_t -> ɛ | STATEMENTS

12. STATEMENT -> **return** STATEMENT\_t | id STATEMENT\_t2 | BLOCK

12.1 STATEMENT\_t -> ɛ |EXPRESSION

12.2 STATEMENT\_t2 -> VARIABLE\_t = EXPRESSION | (PARAMETERS\_LIST)

13. BLOCK -> { VAR\_DEFINITIONS; STATEMENTS }

14. PARAMETERS\_LIST -> ɛ | VARIABLES\_LIST

15. EXPRESSION -> id EXPRESSION\_t | int\_number | real\_number

15.1. EXPRESSION\_t -> VARIABLE\_t |ar\_op EXPRESSION

\_t = ‘

\_t2 = ‘’

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | First | Follow | Nullable |
| 1.PROGRAM | program | $ |  |
| 2. VAR\_DEFINITIONS | real integer | ; ) |  |
| 2.1 VAR\_DEFINITIONS’ | ; | ; ) | + |
| 3. VAR\_DEFINITION | real integer | ; ) |  |
| 4.TYPE | real integer | id |  |
| 5.VARIABLES\_LIST | id | ; ) |  |
| 5.1 VARIABLES\_LIST’ | , | ; ) | + |
| 6. VARIABLE | id | , ; ) |  |
| 6.1 VARIABLE’ | [ | , ; = ) | + |
| 7. FUNC\_DEFINITIONS | void real integer | $ |  |
| 7.1 FUNC\_DEFINITONS’ | void real integer | $ | + |
| 8. FUNC\_DEFINITION | void real integer | void real integer $ |  |
| 9. RETURNED\_TYPE | void real integer | id |  |
| 10. PARAM\_DEFINITIONS | real integer | ) | + |
| 11. STATEMENTS | return id { | end } |  |
| 11.1 STATEMENTS’ | return id { | end } | + |
| 12. STATEMENT | return id { | ; |  |
| 12.1 STATEMENT’ | id int\_number real\_number | ; | + |
| 12.2 STATEMENT’’ | [ ( = | ; |  |
| 13. BLOCK | { | void real integer $ ; |  |
| 14. PARAMETERS\_LIST | id | ) | + |
| 15. EXPRESSION | id int\_number real\_number | ; |  |
| 15.1 EXPRESSION’ | [ \* / | ; | + |