

Diseño de Compiladores

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Proyecto 2 Parser

Gramática en EBNF

1. $\text{program} \rightarrow \text{declaration-list}$
2. $\text{declaration-list} \rightarrow \text{declaration} \{ \text{declaration} \}$
3. $\text{declaration} \rightarrow \text{var-declaration} \mid \text{fun-declaration}$
4. $\text{var-declaration} \rightarrow \text{type-specifier ID} [\text{¥} [\text{NUM} \text{¥}]] ;$
5. $\text{type-specifier} \rightarrow \text{int} \mid \text{void}$
6. $\text{fun-declaration} \rightarrow \text{type-specifier ID} \text{¥} (\text{params} \text{¥}) \text{compound-stmt}$
7. $\text{params} \rightarrow \text{param-list} \mid \text{void}$
8. $\text{param-list} \rightarrow \text{param} \{ , \text{param} \}$
9. $\text{param} \rightarrow \text{type-specifier ID} [\text{¥} [\text{¥}]]$
10. $\text{compound-stmt} \rightarrow \text{¥} \{ \text{local-declarations statement-list} \text{¥} \}$
11. $\text{local-declarations} \rightarrow \{ \text{var_declaration} \}$
12. $\text{statement-list} \rightarrow \{ \text{statement} \}$
13. $\text{statement} \rightarrow \text{expression-stmt}$
 $\quad \mid \text{compound-stmt}$
 $\quad \mid \text{selection-stmt}$
 $\quad \mid \text{iteration-stmt}$
 $\quad \mid \text{return-stmt}$
14. $\text{expression-stmt} \rightarrow [\text{expression}] ;$
15. $\text{selection-stmt} \rightarrow \text{if} \text{¥} (\text{expression} \text{¥}) \text{compound_stmt} [\text{else compound_stmt}]$
16. $\text{iteration-stmt} \rightarrow \text{while} \text{¥} (\text{expression} \text{¥}) \text{compound_stmt}$
17. $\text{return-stmt} \rightarrow \text{return} [\text{expression}] ;$
18. $\text{expression} \rightarrow \{ \text{var} = \} \text{simple-expression}$
19. $\text{var} \rightarrow \text{ID} [\text{¥} [\text{expression} \text{¥}]]$
20. $\text{simple-expression} \rightarrow \text{additive-expression} [\text{relop additive-expression}]$
21. $\text{relop} \rightarrow < = \mid < \mid > \mid > = \mid = = \mid ! =$
22. $\text{additive-expression} \rightarrow \text{term} \{ \text{addop term} \}$
23. $\text{addop} \rightarrow + \mid -$
24. $\text{term} \rightarrow \text{factor} \{ \text{mulop factor} \}$
25. $\text{mulop} \rightarrow * \mid /$
26. $\text{factor} \rightarrow \text{NUM} \mid (\text{expression}) \mid \text{call} \mid \text{var}$

27. $\text{call} \rightarrow \text{ID (args)}$

28. $\text{args} \rightarrow \text{arg-list} \mid \epsilon$

29. $\text{arg-list} \rightarrow \text{expression} \{, \text{expression}\}$