



# Tecnológico de Monterrey

ITESM CSF

Diseño de compiladores 7-10 ma

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**Documentación Proyecto 2 Parser**

## Gramática utilizada para parser

- program -> declaration-list
- declaration-list -> declaration | declaration declaration-list
- declaration -> var-declaration | fun-declaration
- var-declaration -> type-specifier ID ; | type-specifier ID [NUM] ;
- type-specifier -> int | void
- fun-declaration -> type-specifier ID (params) compound-stmt
- param-list -> param param-list'
- param-list' -> empty | , param param-list'
- param -> type-specifier ID | type-specifier ID []
- compound-stmt -> { local-declarations statement-list }
- local-declarations -> empty | var-declaration local-declarations
- statement-list -> empty | statement statement-list
- statement -> expression-stmnt | compound-stmt | selection-stmt | iteration-stmt | return stmt
- expression-stmnt -> expression ; | ;
- selection-stmt -> if ( expression ) statement
  - | if ( expression ) statement else statement
- iteration-stmt -> while ( expression ) statement
- return-stmt -> return ; | return expression ;
- expression -> var = expression | simple-expression
- var -> ID | ID [expression]
- simple-expression -> additive expression relop additive-expression
  - | additive expression
- relop -> <= | < | > | >= | == | !=
- additive-expression -> term additive-expression'
- additive-expression' -> addop term additive-expression' | empty
- addop -> + | -
- term -> factor | term'
- term' -> empty | mulop factor term'
- mulop -> \* | /
- factor -> ( expression ) | var | call | NUM
- call -> ID (args)
- args -> arg-list | empty
- arg-list -> expression arg-list'
- arg-list' -> empty | , expression arg-list'