

program → *block*
block → { *decls stmts* }
decls → *decls decl* | ϵ
decl → *type id* ;
type → *type* [**num**] | **basic**
stmts → *stmts stmt* | ϵ
stmt → *loc = bool* ;
 | **if** (*bool*) *stmt*
 | **if** (*bool*) *stmt* **else** *stmt*
 | **while** (*bool*) *stmt*
 | **do** *stmt* **while** (*bool*) ;
 | **for**(*stmt bool; stmt*) *stmt*
 | **break** ;
 | *block*
loc → *loc* [*bool*] | **id**

bool → *bool* || *join* | *join*
join → *join* && *equality* | *equality*
equality → *equality* == *rel* | *equality* != *rel* | *rel*
rel → *expr* < *expr* | *expr* <= *expr* | *expr* >= *expr* |
 expr > *expr* | *expr*
expr → *expr* + *term* | *expr* - *term* | *term*
term → *term* * *unary* | *term* / *unary* | *unary*
div → *div* Div *unary* | *unary*
unary → ! *unary* | - *unary* | *factor*
factor → (*bool*) | *loc* | **num** | **real** | **true** | **false**