

# Grammatica BNF di Simpla

*program* → *var-decl-list func-decl-list body* .  
*var-decl-list* → *var-decl var-decl-list* |  $\epsilon$   
*var-decl* → *id-list : type* ;  
*id-list* → **id** , *id-list* | **id**  
*type* → **integer** | **real** | **string** | **boolean** | **void**  
*func-decl-list* → *func-decl func-decl-list* |  $\epsilon$   
*func-decl* → **func id** ( *opt-param-list* ) : *type var-decl-list body* ;  
*opt-param-list* → *param-list* |  $\epsilon$   
*param-list* → *param-decl , param-list* | *param-decl*  
*param-decl* → **id : type**  
*body* → **body stat-list end**  
*stat-list* → *stat ; stat-list* | *stat* ;  
*stat* → *assign-stat* | *if-stat* | *while-stat* | *for-stat* | *return-stat* | *read-stat* | *write-stat* | *func-call* | **break**  
*assign-stat* → **id = expr**  
*if-stat* → **if expr then stat-list opt-else-stat end**  
*opt-else-stat* → **else stat-list** |  $\epsilon$   
*while-stat* → **while expr do stat-list end**  
*for-stat* → **for id = expr to expr do stat-list end**  
*return-stat* → **return opt-expr**  
*opt-expr* → *expr* |  $\epsilon$   
*read-stat* → **read** ( *id-list* )  
*write-stat* → *write-op* ( *expr-list* )  
*write-op* → **write** | **writeln**  
*expr-list* → *expr , expr-list* | *expr*  
*expr* → *expr logic-op bool-term* | *bool-term*  
*logic-op* → **and** | **or**  
*bool-term* → *rel-term rel-op rel-term* | *rel-term*  
*rel-op* → **==** | **!=** | **>** | **>=** | **<** | **<=**  
*rel-term* → *rel-term low-prec-op low-term* | *low-term*  
*low-prec-op* → **+** | **-**  
*low-term* → *low-term high-prec-op factor* | *factor*  
*high-prec-op* → **\*** | **/**  
*factor* → *unary-op factor* | ( *expr* ) | **id** | *const* | *func-call* | *cond-expr* | *cast* ( *expr* )  
*unary-op* → **-** | **not**  
*const* → **intconst** | **realconst** | **strconst** | **boolconst**  
*func-call* → **id** ( *opt-expr-list* )  
*opt-expr-list* → *expr-list* |  $\epsilon$   
*cond-expr* → **if expr then expr else expr end**  
*cast* → **integer** | **real**