

### File AST.docx

Following are the changes in the AST definitions

- 1) `Func(Return_Type, Parameters, Declaration*, Statement)` becomes  
`Func(Function_Name, Return_Type, Parameters, Declaration*, Statement)`, where  
`Function_Name` is the ID representing the function.
- 2) The definition `FuncType( ID_FuncName, ResultType, Parameters)` is removed.
- 3) `OUT_Stmt(ID_output)` becomes `OUTStmt(ID_output)`
- 4) `Statement = AssignmentStmt | ConditionalStmt | RepetitiveStmt |`  
`ReturnStmt | IO_Stmt | FunctionCallStmt` becomes

`Statement = AssignmentStmt | ConditionalStmt | RepetitiveStmt | ReturnStmt |`  
`IO_Stmt | FunctionCallStmt | EmptyStmt`

and add

`EmptyStmt(NULL)`.

- 5) `BoolExp = EqualityExp | NotEqualityExp | LT_Exp | LE_Exp | GT_Exp | GE_Exp`  
becomes  
`BoolExp = EqualityExp | NotEqualityExp | LT_Exp | LE_Exp | GT_Exp | GE_Exp | ID_Exp`  
where `ID_Exp` is `ID_Exp(ID_Left)`

### Context Rules

- 1) Any name (var ID or Fun ID) should be uniquely defined in any given scope.
  - 1.2) For any function, the names in it's scope includes all the  
VAR's defined inside it, and the function definitions (not VAR's  
inside them) that precede it in the program text. (Note: This is  
to clarify the context rule 6 in the type.docx)
  - 1.3) Return statement can return only the OUTID defined in the  
function definition.
  - 1.4) (to clarify further the context rule-3) A function whose  
return type is `TK_KEY_NONE`, should not contain a return statement.