

```

type [StructTypes stypes] returns [Type t = null]
: INT { $t = Type.intType(); }
| BOOL { $t = Type.boolType(); }
| ^(STRUCT id=ID)
  {
    if (!$stypes.isDefined($id.text))
    {
      error($id.line, "undefined struct type '" + $id + "'");
    }
    $t = Type.structType($id.text);
  }
;

declarations [StructTypes stypes, SymbolTable stable]
: ^(DECLS declaration[stypes,stable])
| { System.out.println("There are no declarations"); }
;

declaration [StructTypes stypes,SymbolTable stable]
: (decl_list[stypes,stable])*
;

decl_list [StructTypes stypes,SymbolTable stable]
: ^(DECLLIST ^(TYPE t=type[stypes]) id_list[t,stable])
;

id_list [Type t, SymbolTable stable]
: (
  id=ID
  {
    if ($stable.redef($id.text))
    {
      error($id.line, "redefinition of variable '" + $id + "'");
    }
    else if ($stable.isFormal($id.text))
    {
      error($id.line, "redefinition of parameter '" + $id + "'");
    }
    $stable.put($id.text, $t);
  }
)+
;

```