

Tiger—Abstract Syntax Classes

```
package tigerc.syntax.absyn;
```

```
interface ISyntaxElt
interface IVisitable
interface IAbsyn extends ISyntaxElt, IVisitable
interface IAbsynVisitor
```

```
abstract class Decl implements IAbsyn
    DeclGroupFunction(int pos, List<DeclFn>)
    DeclGroupType(int pos, List<DeclTy> decls)

    DeclVar(int pos, Symbol name, Symbol type, Exp init)
```

Type and function declarations (both implement ISyntaxElt)

```
    DeclTy(int pos, Symbol name, Ty type)
    DeclFn(int pos, Symbol name, List<Pair<Symbol, Symbol>> params,
            TyName resultTy, Exp body)
```

```
abstract class Exp implements IAbsyn
    ExpArray(int pos, Symbol celltype, Exp size, Exp init)
    ExpAssign(int pos, Var var, Exp exp)
    ExpBreak(int pos)
    ExpCall(int pos, Symbol func, List<Exp> args)
    ExpFor(int pos, Symbol var, Exp lo, Exp hi, Exp body)
    ExpIf(int pos, Exp test, Exp thenclause)
    ExpIfElse(int pos, Exp test, Exp thenclause, Exp elseclause)
    ExpInt(int pos, int value)
    ExpLet(int pos, List<Decl> decls, Exp body)
    ExpNil(int pos)
    ExpOp(int pos, Exp left, Op oper, Exp right)
        ExpOp.Op {PLUS, MIN, MUL, DIV, EQ, NE, LT, LE, GT, GE, AND, OR }
    ExpRecord(int pos, Symbol type, List<Pair<Symbol, Exp>> fields)
    ExpSeq(int pos, List<Exp> exps)
    ExpString(int pos, String value)
    ExpVar(int pos, Var var)
    ExpWhile(int pos, Exp test, Exp body)
```

```
abstract class Ty implements IAbsyn
    TyArray(int pos, Symbol etype)
        array type declaration, array of etype
    TyName(int pos, Symbol tname)
        simple type identifiers
    TyRecord(int pos, List<Pair<Symbol, Symbol>> tfields)
        record type declaration, { tfields }, where tfields = v1 : t1 , ... , vn : tn
```

```
abstract class Var implements IAbsyn
    VarField(int pos, Var v, Symbol f)
        record field access, v.f
    VarSimple(int pos, Symbol name)
        simple identifiers
    VarSubscript(int pos, Var v, Exp i)
        array element access, v[i]
```

utility classes

```
package tigerc.syntax.util
```

```
    public class AbsynPrintVisitor implements IVisitable
    public class ErrorMsg
    public class Symbol
    public class Table
```

```
package tigerc.util
```

```
    public class List<T>
    public class Pair<A,B>
```