case class
AcquireState

case class
ReleaseState

case class
CallState

case class
Matched

case class
Unmatched

case class
Contains

sealed abstract class
EvalState

sealed abstract class
TransformMatch

case class
TypeQuantification

case class Fold

case class Unfold

case class Eq

case class Neq

case class Init

trait Quant

case class Div

case class Mod

sealed abstract class EqualityCompareExpr

case class Less

case class AtMost

case class AtLeast

case class Greater

case class LockBelow

case class Append

case class At

case class Drop

case class Take

case class Or

sealed abstract class ArithmeticExpr

sealed abstract class CompareExpr

sealed case abstract class SeqAccess

case class SeqQuantification

case class olding

sealed abstract class BinaryExpr

sealed abstract class Quantification

case class ExplicitSeq

case class Range

case class Length

case class Eval

Statement (sealed abstract class) with case class subtypes:
- IfStmt
- WhileStmt
- Assign
- FieldUpdate
- LocalVar
- Call
- SpecStmt
- Install
- Share
- Unshare
- Acquire

Literal (sealed abstract class) with case class subtypes:
- IntLiteral
- BoolLiteral
- NullLiteral
- MaxLockLiteral
- LockBottomLiteral
- EmptySeq

ThisExpr (sealed abstract class) with case class subtypes:
- ExplicitThisExpr
- ImplicitThisExpr

Other case classes:
- VariableExpr
- Result
- MemberAccess

case class
SkipPat

case class
ProgramPat

case class
IfPat

case class
WhilePat

case class
NonDetPat

case class
InsertPat

case class
SeqPat

case class
RefinementBlock

case class
Assert

case class
Assume

case class
BlockSt

sealed abstract class
Transform

```
  case class         case class         case class                          case class         case class         case class         case class         case class
SpecialField        Method          MethodTransform                       SpecialVariable     Precondition       Postcondition       LockChange          BlockPat
      │                │                │                                        │                 │                 │                 │
      │                │                │                                        │                 │                 │                 │
      │                │                │                                        │                 │                 │                 │
      ▼                ▼                │                                        ▼                 │                 ▼                 │
  case class    sealed abstract class  │      case class      case class      case class           │          sealed abstract class   │
    Field            Callable   ◄──────┘       Predicate       Function        Variable            └────────►      Specification  ◄────┘
      │                │                      │                │                                                   ▲
      │                │                      │                │                                                   │
      │                │                      │                │          Condition ──┐                            │
      │                │                      │                │              │        │
      │                │                      │                │              │        │
      └──────┐         │         ┌────────────┘      ┌─────────┘     ┌────────┘
             ▼         ▼         ▼                   ▼               ▼
  case class     sealed abstract class      case class
MonitorInvariant      NamedMember        CouplingInvariant
      │                │                      │
      │                │                      │
      └────────┐       │       ┌──────────────┘
               ▼       ▼       ▼
          sealed abstract class
                 Member
```

```
trait                 sealed case class    case class        case class              sealed case class
ASTNode               SeqClass             TokenClass        ChannelClass            TokenType
```

```
                              sealed case class        sealed case class            sealed case class
                              Class                    Channel                      Type
```

```
                                    case class
                                    TopLevelDecl
```