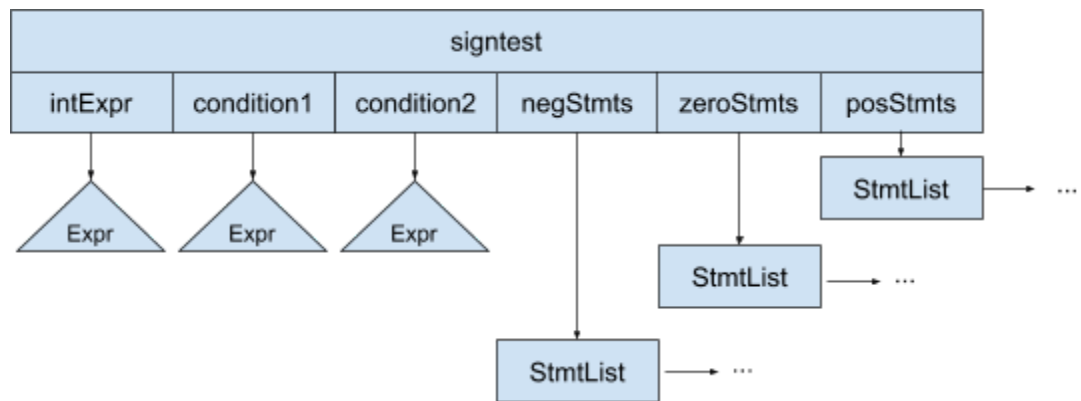


Brendan Van Allen
Lab 6

CaC 9.2

AST:



```

class NodeVisitor

  procedure visitChildren( n )

    foreach c  $\in$  n.getChildren( ) do call c.accept( this ) end

end

```

```

class SemanticsVisitor extends NodeVisitor

  procedure checkBoolean( c )

    if c.type  $\neq$  Boolean and c.type  $\neq$  errorType

      then call error("Require Boolean type at",c)

    end

```

```

  procedure visit(SignTest stn)

    call visitChildren( stn )

    call checkBoolean( stn.condition1 )

    call checkBoolean( stn.condition2 )

  end

```

```

class ThrowsVisitor extends NodeVisitor

  procedure gatherThrows( n )

    call visitChildren( n )

    ans  $\leftarrow \emptyset$ 

    foreach c  $\in$  n.getChildren( ) do ans  $\leftarrow$  ans  $\cup$  c.throwsSet

    n.throwsSet  $\leftarrow$  ans

  end

```

```
procedure visit(SignTest stn)
```

```
    call gatherThrows(stn)
```

```
end
```

```
class ReachabilityVisitor extends NodeVisitor
```

```
    procedure visit(SignTest stn)
```

```
        stn.negStmts.isReachable  $\leftarrow$  true
```

```
        stn.zeroStmts.isReachable  $\leftarrow$  true
```

```
        stn.posStmts.isReachable  $\leftarrow$  true
```

```
    call visitChildren(ifn)
```

```
    negNormal  $\leftarrow$  stn.negStmts.terminatesNormally
```

```
    zeroNormal  $\leftarrow$  stn.zeroStmts.terminatesNormally
```

```
    posNormal  $\leftarrow$  stn.posStmts.terminatesNormally
```

```
    stnn.terminatesNormally  $\leftarrow$  negNormal or zeroNormal or posNormal
```

```
end
```