Plan for today

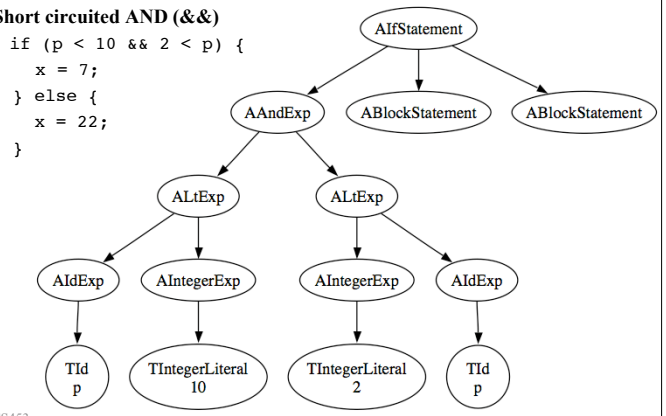
Final review in the context of code generation for short circuiting

- type checking
- translation to IR Trees
- tree pattern matching and temp assignment
- code generation

Short Circuiting

Short circuited AND (&&)

```
if (p < 10 && 2 < p) {
   x = 7;
} else {
   x = 22;
}
```



Changing the Translation

Translate::outAAndExp (OLD way)

- stmList.addAll(stmts from l_exp)
- stmList.addAll(stmts from r_exp)
- create new Tree.ExpBINOP(AND) and hook in Tree.Exp for l_exp and r_exp

Translate::outAAndExp (for short circuiting)

- stmList.addAll(stmts from l_exp)
- stmList.add() the following
  - **StmCJUMP(EQ, Tree.Exp for l_exp, ExpCONST 1, L4, L3)**
  - **StmLABEL L3**
  - **StmMOVE(ExpTemp t35, ExpCONST 0)**
  - **StmJUMP L5**
  - **StmLABEL L4**
- stmList.addAll(stmts from r_exp)
- stmList.add() the following
  - **StmMOVE(ExpTemp t35, Tree.Exp for r_exp)**
  - **StmJUMP L5**
  - **StmLABEL L5**
- Tree.Exp for AndExp is ExpTEMP(t35)