ASTs for Control Structures
• Syntactically, control structures are **statements** just like assignment statements

```
statement : base_stmt ';'
    | if_stmt
    | while_stmt ;

base_stmt : assign_stmt
    | read_stmt
    | print_stmt
    | return_stmt ;
```

• AST Nodes subclass from a StatementNode abstract class
  • IfStatement
  • WhileStatement

• Key difference: if statements and while loops can have *more statements nested inside*
if statements

```plaintext
if (<cond_expr>) {
  <stmt_list_1>
} else {
  <stmt_list_2>
}
```
while loops

while (<cond_expr>) {
  <stmt_list>
}

WhileNode
  CmpOp
  StmtListNode
for loops

for (<init_stmt>; <cond_expr>; <update_stmt>) {
    <stmt_list>
}
next: generating code for control structures