Conditionals and Boolean Logic

2/2/2009
Opening Discussion

- Do you have any questions about the quiz?
- Has anyone looked at the Java Structure document?
Our Problem

- The walkToward method has a problem if dx or dy are zero. Specifically, we get a division by zero exception.
- We only want to do the division if the value is greater than zero.
- We might also want the person to do something when it gets where it is going.
Conditional Execution

- Methods execute by having the statements happen in order.
- Right now, all the statements in a method will happen any time that method is invoked.
- We need the ability to make it so that some things only happen some of the time. This is called conditional execution.
- The simplest conditional is the if statement.
Syntax of if

- We will normally write an if statement with the following syntax.
  - if(condition) {
    - statements
  }

- The statements only execute if the condition is true.
Comparison Operators

- If you want to compare two numbers use the following.
  - `==` for equality. Note there are two of them.
  - `!=` for inequality.
  - `>`, `<`, `>=`, `<=` for what they look like.

- With objects you generally want to call the `equals` method.
  - `if(v1.equals(v2)) ...`
Boolean Logic

- We only want the person to enter the house if both dx and dy are zero. To do this we use Boolean logic.

- Logic operators
  - || is inclusive or.
  - && is and.
  - ! is not.

- Let's look at truth tables for these.

- Use parentheses to group things.
Minute Essay

- Do you have any questions about conditionals or Boolean logic?