

Conditionals and Boolean Logic

9/16/2009

Opening Discussion

- Do you have any questions about the quiz?
- How is the reading going? Please suggest changes or let me know when you find errors/typos.
- Minute Essays
 - Loops are next week
 - Basic Java environments: BlueJ.
 - Doing unrelated things is distracting to others.
 - Answers of ICPs.

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
 - } [else {
 - statements
 - }]
- The statements only execute if the condition is true.
- Else is optional executes if condition is false.

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?
- The next round of interclass problems will be this coming Monday.