

Keyboard Input

9-17-2010

Opening Discussion

- What did we talk about last class?
- Minute Essay responses
 - Can you use conditionals in the world code?
 - Looks a lot like Matlab.
 - Unhappy indentation.
 - Purpose of print statements.
 - How often do bugs occur?
 - What is the difference between if/else and true/false?

More

- Will we keep doing the kind of math we did the other day?
- What types of things are true and false?
- Typos when you follow along.
- Coming up with code on your own.

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 the x and y are the same. 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.

Goal for the Day

- Today I want to add another Actor to our city and make it so that it is controlled with the arrow keys.
- How should we go about doing this?

Keyboard Input

- If you look in the API you will find that the Greenfoot class has a method called `getKey()` and another called `isKeyDown()`.
- What are the return types of these methods? What does the API say the value of this return will be?

Strings

- A string is a sequence of characters. Words and sentences are strings.
- The type of strings in Java is String. Note it starts with a capital letter.
- We write string literals in Java by putting whatever we want in quotes.
- The web page has a link to the API page for String.

Key Methods of String

- `equals(String s)` - This was mentioned last class as the proper way to compare object types.
- `length()` - Returns the number of characters in the string.
- `indexOf(...)` - Many options for arguments. Returns the location in the string where first found.
- `+` - Not really a method. The plus sign is overloaded in Java to do String concatenation.

Printing

- Sometimes you need more information than what is being displayed on the world to figure out what a program is doing.
- You can print and whatever you print will appear in the console.
- To do this use the `System.out.println()` method. You can pass it one argument of basically any type.

Writing the Code

- Now we can make it so that the person moves based on keyboard input.
- Where should this code go?
- What should it look like?

Minute Essay

- Do you have any questions about what was covered today? Is it clear how to use keyboard input in Greenfoot?
- Feel free to do multiple interclass problems. Practice is key to learning this.