

Arrays

10/2/2009

Opening Discussion

- Do you have any questions about the quiz?
- What is the purpose of loops? Lists?
- Minute Essay comments
 - Fun – 15 (sudoku mentioned by name)
 - Spreadsheet – 5
 - Text and HTML – 4 each
 - Optimization – 2
 - Network and hacking – 1 each
 - How do they do 3-D graphics/sound?
 - How do viruses work?

Midterm

- The midterm is a week from today. We are going to have some review sessions. The extra credit is going to be a set of problems.

Objectives

- We have some new objectives for this week. The main objective is to get our city scenario working as a valid game.
 - Have the Lemur move on straight lines all the time. Turn when key is hit.
 - Have people not return to the same house and do random walks without diagonals when there isn't a house to go to.
 - Scoring is how many people the Lemur can eat in certain number of calls to update.

Arrays

- Lists are not the only way of storing multiple values. Arrays are often simpler.
- Arrays have a different syntax and can't change size.
- Square brackets indicate an array type.
 - `int[]` numbers;
 - `String[]` words;

Making Arrays

- Use `new` to make an array or “shortcut” syntax.
 - `int[] numbers=new int[50];`
 - `int[] fewNumbers={34,19,22,21,20,18};`
- If the array hold primitives the values are 0 or false to start with.
- If the array holds objects the values are null to start with.

Using Arrays

- Instead of calling `get`, use square brackets.
- The following prints the values in an array.
 - `for(int i=0; i<numbers.length; i++) {`
 - `System.out.println(numbers[i]);`
 - `}`

Direction Moves as Arrays

- Instead of a bunch of if statements, we can use arrays to keep the move information in two arrays.
 - `int[] xoff={0,1,0,-1};`
 - `int[] yoff={-1,0,1,0};`

Code

- We want to use this technique for movement in both the Lemur and the Person.
- Once we have that we can put in the code so people don't return to the same house.

Minute Essay

- What questions do you have about our topics today?