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?