Array and New Classes

2/20/2009
Opening Discussion

- What is the purpose of lists?
- What is the purpose of loops?
- Minute Essay comments
  - Every topic was listed by several people. We'll try to mix things up a bit.
- 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. We will be working in the maze scenario.
  - Add a Cat class to this scenario.
  - Have the cat move on straight lines with random turns.
  - Give user control of the mouse and make a simple game where you have to get to the cheese without being eaten by the cat.
Adding a New Class

- Let's go ahead and create our new class that we will use to represent our Cat.
- What information do we need to put in this class?
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};`
Minute Essay

● What questions do you have about our topics today?