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?