

Problem Solving in Greenfoot

1-20-2010

Opening Discussion

- Has everyone been able to get Greenfoot installed on your computer?
- What did we talk about last time?
- Minute Essays
 - Can we program the Wombats to seek out the leaves?
 - Are there more objects in Wombats?
 - Is it more important to do things in the fewest steps for the wombat or the human typing the code?

More Minute Essay Comments

- What is the function of the parentheses after the methods?
- Will we be creating our own worlds?
- Are there downloadable practices?
- How do you know if your method is the optimal method? Can you test it?
- Is a class just a collection of methods? Are the methods the things the objects can do?
- How do you take notes in this class?
- If there a way to put all the instructions in Greenfoot at once?

Even More Minute Essay Comments

- How much code is there in the Wombat compared to the leaf?
- Will the problem with not having images occur again?
- Does it make a difference if you use act or directly call move and eatLeaf?
- If you used multiple actors you could have more actions going on?
- What exactly is Greenfoot?
- How is PSPGWombat different from the original Wombat?

Algorithms

- An algorithm is a systematic description of how to solve a problem. Programming is basically putting algorithms into a language a computer can understand.
- You can view the computer as being very simple minded. It only understands simple instructions, not complex ones.
- Blowing up a balloon example.

Let's Play a Game

- Go to the course web site and next to today's lecture you will find a link to a zip file that has three scenarios for today.
- Extract the files in your personal space then open the first scenario in Greenfoot.
- This is a puzzle game that should be fairly intuitive. Click run and play it some.

Steps in the Game

- Now I want you to open the second scenario.
- For this one you can't use run. Instead, you will move the selector around manually and use a right click on the selector and the world to “play” the game.
- What steps do you have to do in order to make the game work?

Last Case

- Now open the third scenario and try to play the game.
- What has changed?
- How does this change the steps we wrote down?

Minute Essay

- Recipes are a standard, yet simple example of something algorithmic that everyone can identify with. What do you see as a significant difference between recipes and what we looked at today?