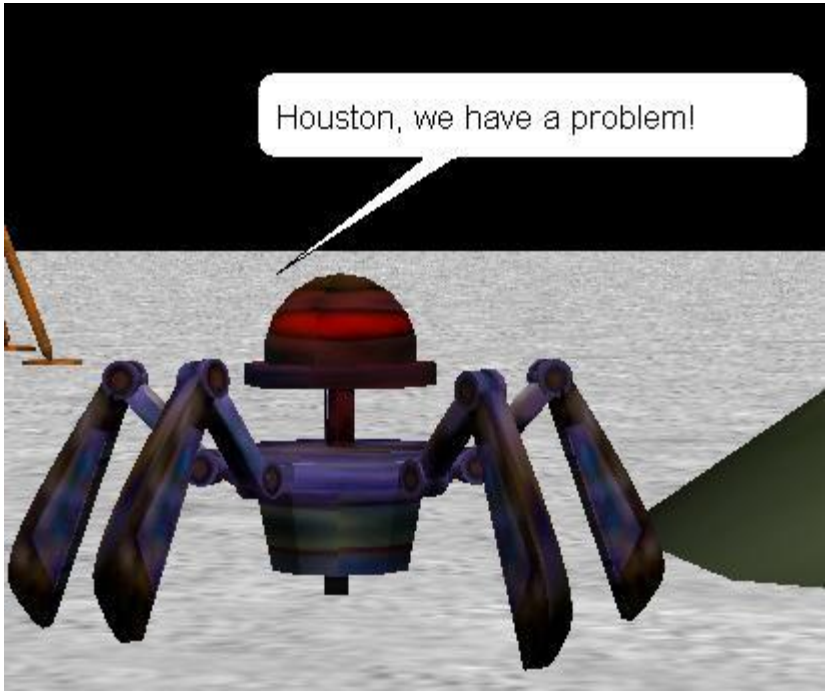
CompSci 94
Chap 2 Sec 2
Sept 10, 2013

Prof. Susan Rodger



Announcements

- Skip Chapter 3!!!
- Read Chapter 4, Section 1
- Reading Quiz due next time
- Assignment 3 out
  - Storyboards due next Tues
  - Worlds due next Thurs
    - Turn in the Alice worlds on the assignments page on the CompSci 94 web page. You also need to write web pages and link to them.

Last Time

- Began the animation process
  - Storyboards

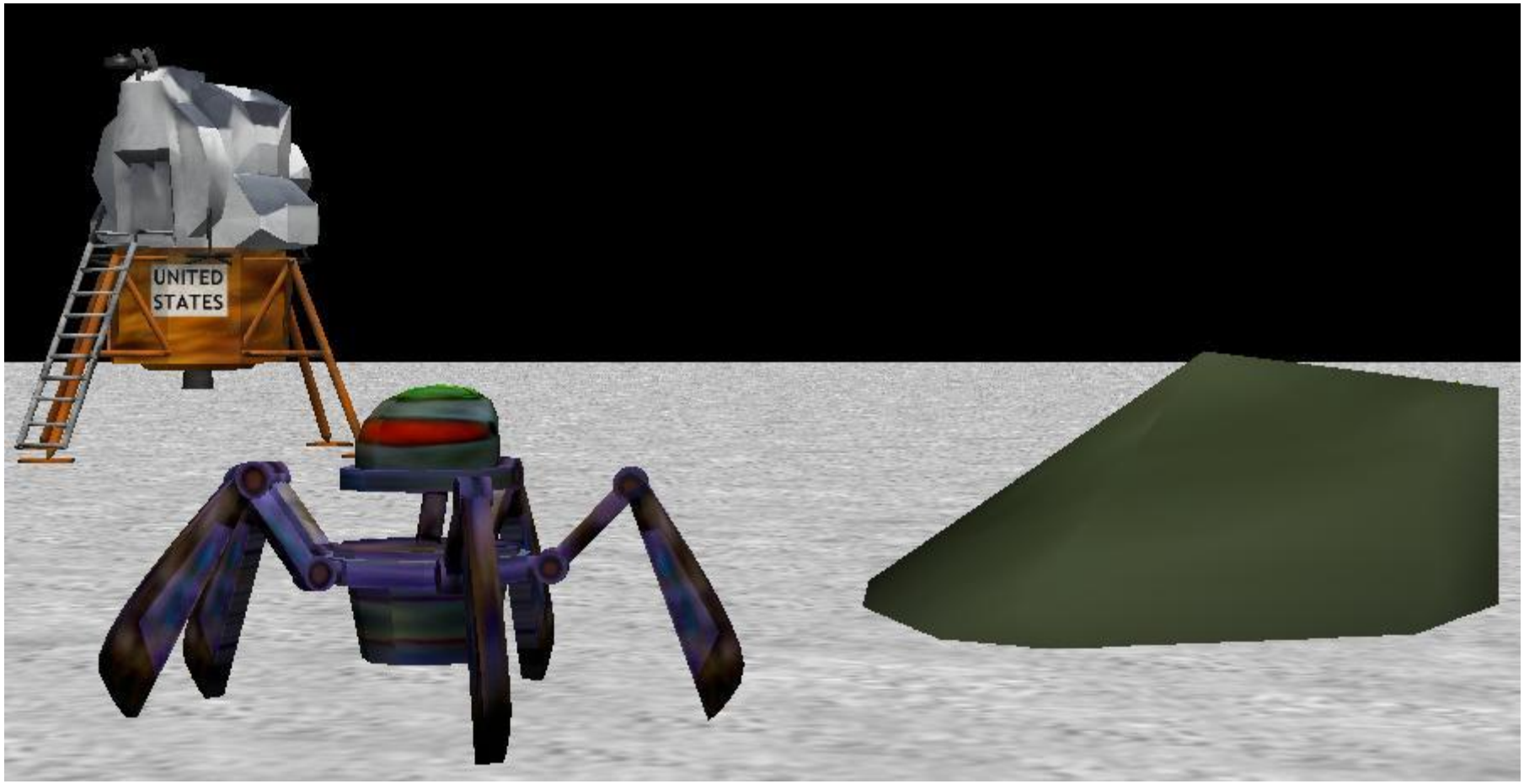
- We will continue using the alien example from last time
- Show alien animation

- Today, we will implement the story

Step 2: Implementation

- Implementing an animation requires
  - Setting up the initial scene in Alice
  - Writing the Program (script)

Create the Initial Scene



Techniques and Tools

- Mouse used to
  - Setup the initial scene
  - Approximately position objects in the scene
  - Resize objects for setup(helps to find tiny objects)
- Camera Navigation is used to
  - Set the camera point of view
  - Always create DummyCamera object (tripod) for original scene BEFORE moving the camera
- Scene Editor's Quad View
  - Position one object relative to another object

Writing a Program

- "Writing" a program (script)
  - A list of instructions to have the objects perform certain actions in the animation
- Our planned storyboard (todo list) is

  `Alien appears and talks. (camera close up, then pan back out)`

  `Robot turns to face alien, moves forward`

  `Alien drops down out of sight.`

  `Robot faces camera, turns red and says "we have a problem"`
- Now translate design steps to program instructions

Translating the Design

- Some steps in the storyboard can be written as a single instruction
  - `robot turns to face alien`

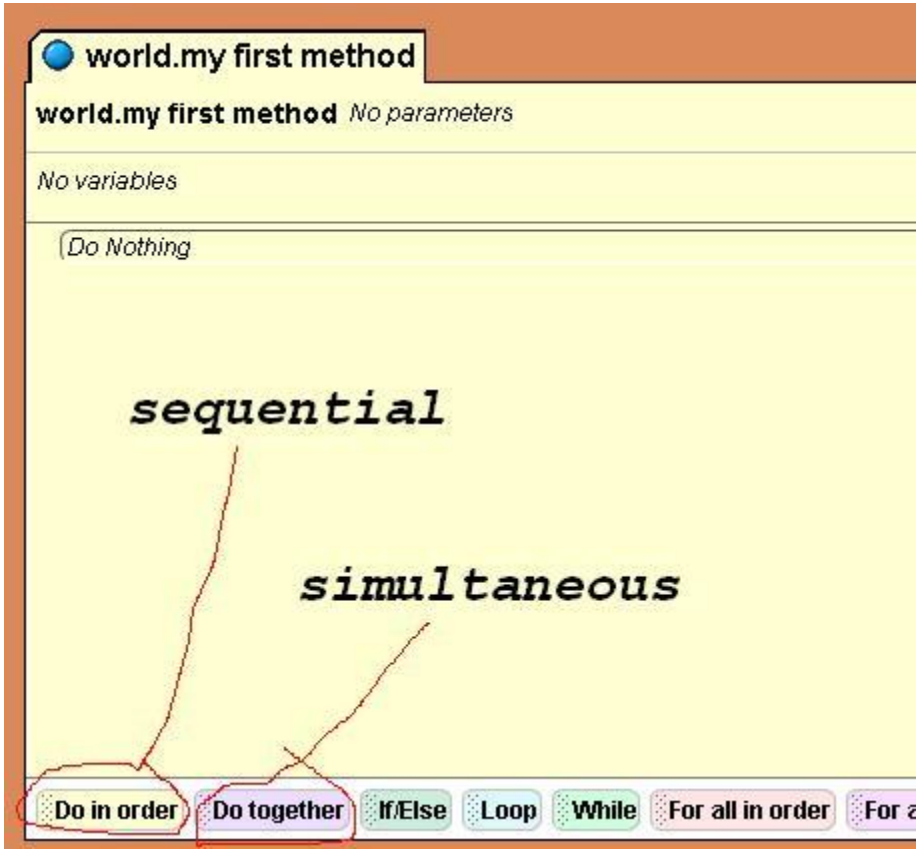
"turn to face" is different than "turn"

- Other steps are composite actions that require more than one instruction
  - `Alien appears and speaks`
    - `Alien moves up above the rock`
    - `Alien says something`

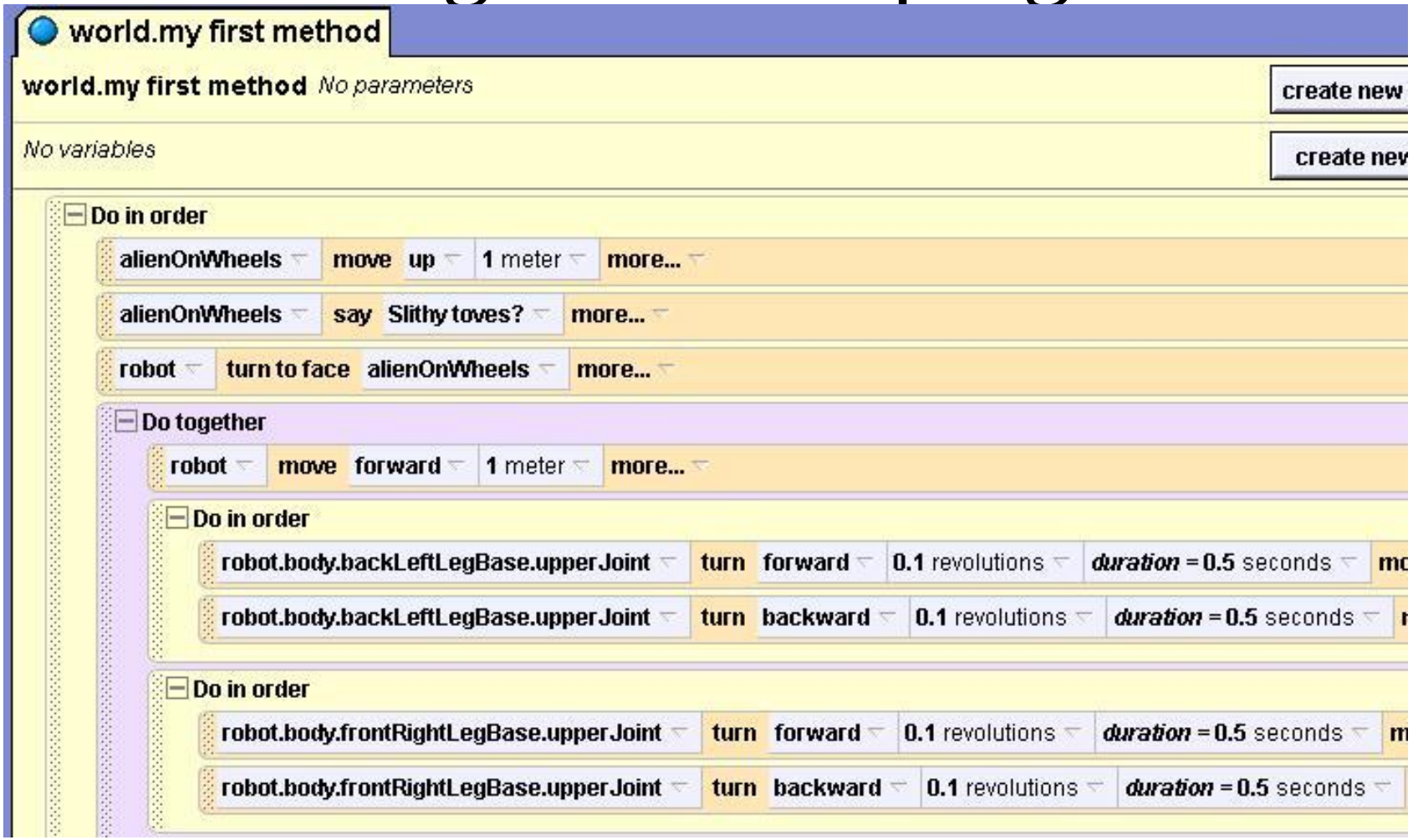
Actions

- Sequential
  - Some actions occur one after the other
    - First: aliens moves up above the rock
    - Second: alien says something
- Simultaneous
  - Some actions occur at the same time
    - Robot moves forward while some of its legs move

Action blocks in Alice



Coding the robot program



- Things to note:
  - Nesting of DoTogether and DoInOrder blocks
  - Arguments for the move instruction – direction, distance

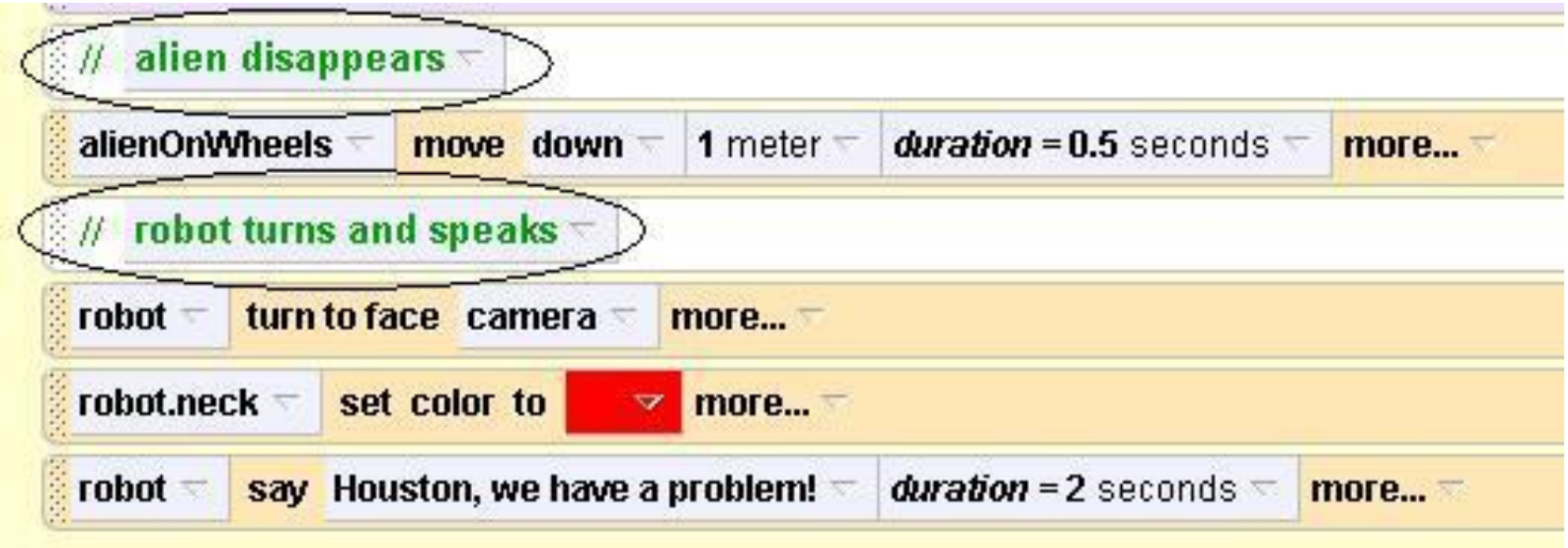
Testing

- Important step in creating a program – run it to be sure it does what you expect it to do
- Recommend you use **incremental development**
  - Write a few lines of code and then run it
  - Write a few more lines and run it
  - Write a few more lines and run it
- This process allows you to find any problems and fix them as you go

Comments

- While Alice instructions are easy to understand, it is often desirable to be able to explain (in words) what is going on in a program
- Use comments to explain to the human reader what a particular section of code does

Comments use //



- Comments appear in green
- Alice ignores comments when program runs
- Comments make the program easier to read

Comments (cont)

- Comments can describe a large block of program code
- Comments can describe a small subsection of program code

Classwork today

- Lecture on Chap 2, Sec 2
- Classwork
  - Create three worlds
    - Snowman, Snowwomen
    - Movement – Monkey, ball, Chicken, horse and helicopter
    - Fish and island
  - Show sample worlds:
    - snowmanMeetsSnowWoman.a2w (w/o camera views), movement.a2w, islandFishMoving.a2w
- Get checked off