Prof. Susan Rodger
Announcements

• Assignment 3 storyboard due today!
• Assignment 3 worlds due Thursday
  – Turn worlds in on Blackboard
  – Name textfile “README”
  – Put all three files in a folder named assign3LOGINID
    where LOGINID is your Duke login
What we will do today

• Chapter 4 Sec 2 – Parameters
• New partners today
• Classwork
Overview

• The need for more flexible methods
• Creating methods with parameters
• Passing arguments to methods
• Demo
  – Using Alice – methods with parameters
A Beetle Band

- Create an animation for a bug band as an ad for their next concert
- Each band member will perform a short solo
Storyboards

- Each bug member will perform a solo

Do together
  Do in order
  **georgeBeetle** move up
  **georgeBeetle** move down
  play sound

Do together
  Do in order
  **ringoBeetle** move up
  **ringoBeetle** move down
  play sound

Do together
  Do in order
  **paulBeetle** move up
  **paulBeetle** move down
  play sound

Do together
  Do in order
  **lennonBeetle** move up
  **lennonBeetle** move down
  play sound
Code for georgeBeetle

- We will need four versions of the code, one for each band member
- This code will only work for georgeBeetle
A Better Solution

• Four versions of similar code is tedious.
• The things that change are
  – The beetle
  – The music the beetle plays

• Better Solution: write a more flexible method
Parameters

- Built-in methods provide **flexibility** by providing parameters such as distance and duration
- Parameters allow you to pass in values
  - The values are **arguments**
- **Example:**

  Parameters: distance, duration
  Arguments: 0.5 meters, 0.5 seconds
Types of Parameters

- Alice provides several types of parameters that can be used in your methods.
The Storyboard

- Write one method and use parameters for
  - Which bandmember to perform
  - Which music to play

Solo:
Parameters: \text{bandMember, music}
Do together
  Do in order
    \text{bandMember} move up
    \text{bandMember} move down
play music
Creating a Method Named Solo

• Can be used for any band member
• Will need
  – An Object parameter – which band member is to play a solo
  – A Sound parameter – which music should be played
World.solo with parameters
Calling the solo method

- Note that in each call, arguments must be given for both parameters
A Number Parameter

• Add a number parameter for **height** the **bandMember** jumps up and down.
Classwork Today

• Create worlds
  – Beetle band duet
  – Magic Act