Announcements

• Assignment 3 storyboards due today!

• Assignment 3 worlds due Tuesday
  – Turn worlds in on Blackboard
  – Name textfile “README” or README.txt
  – Upload all three files individually
  – OR Put all three files in a folder and submit a zipped folder

• Check classwork grades on Blackboard as they are put up, late penalty for late classwork
What we will do today

• Chapter 4 Sec 2 – Parameters
• 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

<table>
<thead>
<tr>
<th>Do together</th>
<th>Do in order</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>georgeBeetle</em> move up</td>
<td></td>
</tr>
<tr>
<td><em>georgeBeetle</em> move down</td>
<td></td>
</tr>
<tr>
<td>play sound</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do together</th>
<th>Do in order</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>ringoBeetle</em> move up</td>
<td></td>
</tr>
<tr>
<td><em>ringoBeetle</em> move down</td>
<td></td>
</tr>
<tr>
<td>play sound</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do together</th>
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</tr>
</thead>
<tbody>
<tr>
<td><em>paulBeetle</em> move up</td>
<td></td>
</tr>
<tr>
<td><em>paulBeetle</em> move down</td>
<td></td>
</tr>
<tr>
<td>play sound</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do together</th>
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</tr>
</thead>
<tbody>
<tr>
<td><em>lennonBeetle</em> move up</td>
<td></td>
</tr>
<tr>
<td><em>lennonBeetle</em> move down</td>
<td></td>
</tr>
<tr>
<td>play sound</td>
<td></td>
</tr>
</tbody>
</table>

• Note: instruments are already vehicled to the band member playing them.
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:

  What are the parameters?
  What are the arguments?
  How many of each?
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: bandMember, music
Do together
  Do in order
    bandMember move up
    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

Must add this argument to each call.

Demo
Classwork Today

- Create worlds
  - Beetle band duet
  - Frog Escape