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>George Beetle</th>
<th>Ringo Beetle</th>
<th>Paul Beetle</th>
</tr>
</thead>
<tbody>
<tr>
<td>move up</td>
<td>move up</td>
<td>move up</td>
</tr>
<tr>
<td>move down</td>
<td>move down</td>
<td>move down</td>
</tr>
<tr>
<td>play sound</td>
<td>play sound</td>
<td>play sound</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:**

```
georgeBeetle  move up  0.5 meters  duration = 0.5 seconds  more...
```

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.

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

**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**
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
  - Frog Escape