Announcements

- Assignment 3 storyboard due today!
- Assignment 3 worlds due Thursday
  - Turn worlds in on Blackboard

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

Note: Thanks to Wanda Dann and Steve Cooper for slide ideas
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

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: **bandMember**, **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

Solo:
Parameters: **bandMember**, **music**

Do together

  1. **bandMember** move up
  2. **bandMember** move down
  3. **bandMember** move up
  4. **bandMember** move down
  5. **bandMember** move up
  6. **bandMember** move down

Do in order
World.solo with parameters

Calling the solo method

A Number Parameter

Classwork Today

- Create worlds
  - Beetle band duet
  - Magic Act