Announcements

- Assignment 3 storyboards due today!
- Assignment 3 worlds due Thursday
  - 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
- Read for Next time Chap 4, Sec 3

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
    - $\text{georgeBeetle move up}$
    - $\text{georgeBeetle move down}$
    - $\text{play sound}$
  - Do together
    - $\text{ringoBeetle move up}$
    - $\text{ringoBeetle move down}$
    - $\text{play sound}$

- 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:**

![Parameter 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.

![Parameter Types]

The Storyboard

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

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

Do together
  - **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