

CompSci 4
Chap 4 Sec 2
Sept 18, 2007

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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
- 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



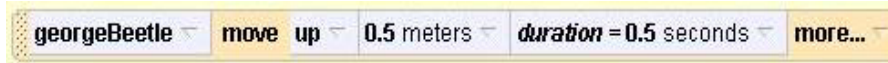
- We will need four versions of the code, one for each band member
- This code will only work for georgeBeetle

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: **bandMember**, **music**

Do together

Do in order

bandMember move up

bandMember move down

play **music**

Creating a Method Named Solo

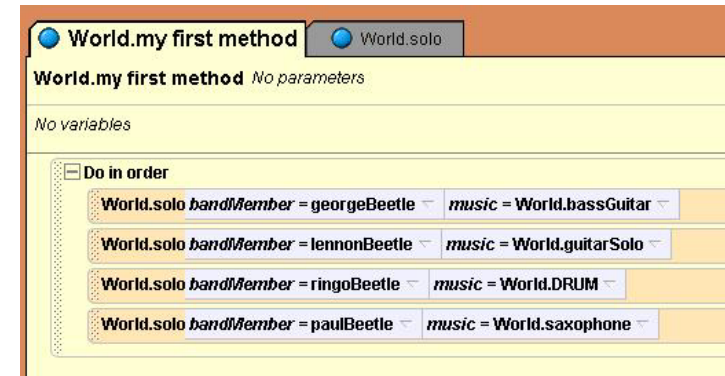
- Can be used for any band member
- Will need
 - An Object parameter – which band member is to play a solo
 - A Sound parameter – which music should be played



World.solo with parameters



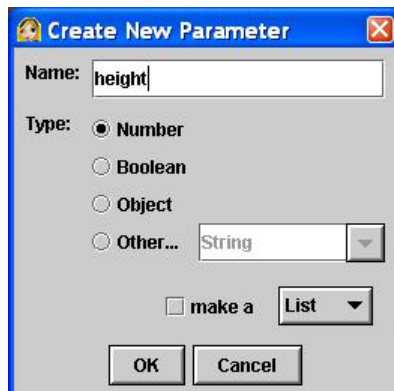
Calling the solo method



- 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



Demo

Classwork Today

- Create worlds
 - Beetle band duet
 - Frog Escape

