

C102 – Day 32

World Methods & Parameters



World.my first method

World.my first method *No parameters*

create

No variables

creat

Do in order

// The snowman tries to catch the attention of the snowwoman by talking and blinking his eye

snowman turn to face snowwoman more...

snowman say Ahem... more...

Do together

snowwoman.head turn to face snowman more...

Do in order

snowman.head.leftEye move up 0.04 meters duration = 0.5 seconds more...

snowman.head.leftEye move down 0.04 meters duration = 0.5 seconds more...

Do in order

snowman.head.rightEye move up 0.04 meters duration = 0.5 seconds more...

snowman.head.rightEye move down 0.04 meters duration = 0.5 seconds more...

// The snowwoman blushes and turns away

Do together

snowwoman.head set color to red more...

snowwoman.head turn to face snowwoman2 more...

snowwoman.head set color to white more...

snowman.head turn forward 0.15 revolutions more...

snowman turn right 0.5 revolutions more...



Solution

- A solution is to organize the instructions into smaller methods.
- A possible storyboard

Do in order

catchAttention – snowman tries to get the attention of the snowwoman

blink eyes – snowwoman turns to look and the snowman blinks his eyes

react – snowwoman blushes and turns away and the snowman
is disappointed



Demo

🌐 Ch04Lec1 Snowpeople

🌐 Concepts illustrated in this example world:

- 🤖 *catchAttention* is a **world-level method** because it is defined as a method for World and has instructions that involve more than one object (snowman, snowwoman, camera)
- 🤖 The *catchAttention* method is executed by **calling** (invoking) the method .



Parameters

Alice



A beetle band



- Our task is to create an animation for a bug band as an advertisement for their next concert.



Storyboards

- Each bug band 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



Demo

🌐 Ch04Lec2BeetleBand-v1

🌐 Concepts illustrated

- 🔊 To play a sound, a sound file must first be imported into Alice. (Alice is not a sound editor.)
- 🔊 This code is only for `georgeBeetle`.
- 🔊 Three more methods (one for each band member) will be needed!



A Better Solution

- Four versions of very similar code seems a bit tedious. The only things that change are the beetle and the music that plays.
- A better solution is to write a more flexible method.



Question

- Take out a sheet of paper
- Write your name on it
- Write the date on it
- Define Parameter



Parameters

- Built-in methods provide **flexibility** by providing parameters such as distance and direction.
- Parameters allow you to pass in values (**arguments**).

 Example



Parameters: distance, direction

Arguments: 0.5 meters, 0.5 seconds



Kinds of Parameters

- Alice provides several kinds of parameters that can be used in your own methods.

Name:

Type: Number
 Boolean
 Object
 Other...

Value: make a



The storyboard

In this example, we can write just one method and use parameters to specify:
which band member is to perform and
which music should be played.

solo

Parameters: ***bandMember, music***

Do together

Do in order

bandMember move up

bandMember move down

play ***music***



Demo

🌐 Ch04Lec2BeetleBand-v2

🌐 Concepts illustrated

🎤 Enter name and select the type of each parameter

💡 bandMember is an **Object parameter**

💡 music is a **Sound parameter**

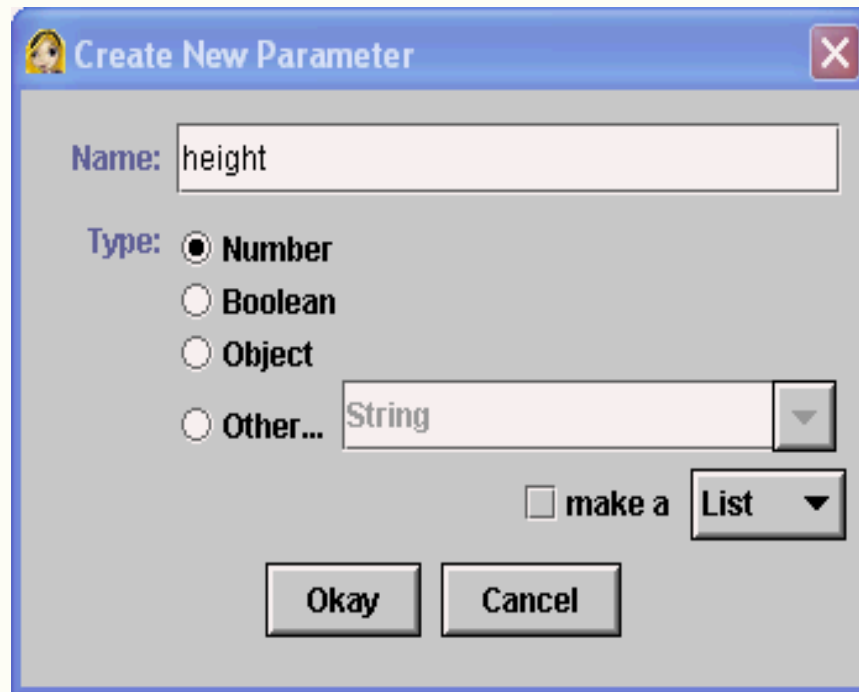
🎤 A parameter acts as a placeholder in the instruction

🎤 Arguments are passed to the parameter in the call to the method



A Number parameter

Add a Number parameter to specify the *height* the *bandMember* jumps up and down.



The screenshot shows a dialog box titled "Create New Parameter". It has a close button (X) in the top right corner. The "Name:" field contains the text "height". Below this, the "Type:" section has four radio button options: "Number" (which is selected), "Boolean", "Object", and "Other...". The "Other..." option has a dropdown menu showing "String". To the right of the "Other..." option is a checkbox labeled "make a" followed by a dropdown menu showing "List". At the bottom of the dialog are two buttons: "Okay" and "Cancel".

Note that the call to the method must now include an argument for the height.

