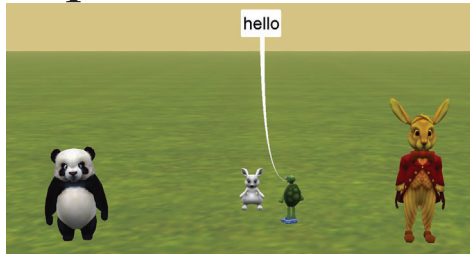


CompSci 94

Writing Class Procedures

Built-in Functions, Math, Properties

September 16, 2021



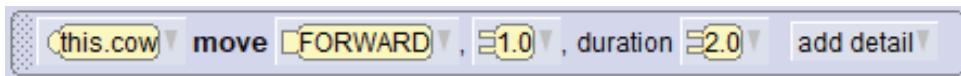
Prof. Susan Rodger

Announcements

- Assignment 3 due Sept. 23.
- Note: Exam 1 is Tuesday, Sept 28
 - Old exams are on the course website under resources tab
 - We will review for the exam on Sept 23
 - If you get accommodations for exams, you should have had your letter sent to Prof. Rodger, and she would have contacted you.

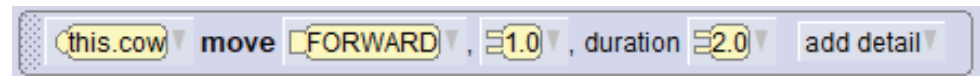
Q1. Built-in Functions

- Where can you use the cow getHeight function in this instruction?



Q1. Built-in Functions

- Where can you use the cow getHeight function in this instruction?



- Over the 1.0 or the 2.0
 - getHeight's value is of type decimal, so you can use it anywhere there is a decimal number
- Functions calculate a value of a certain type
 - Use the value wherever that type is in an instruction

Q2. getDistanceTo

- What happens when this executes?

`this.poodle` move FORWARD, `this.poodle` getDistanceTo `this.cow`



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Q2. getDistanceTo

- What happens when this executes?

`this.poodle` move FORWARD, `this.poodle` getDistanceTo `this.cow`



- Moves to center of cow

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Lots of built-in functions to use

`this.cow`

Procedures Functions

group by category

Cow's Editable Functions (0)

Quadruped's Editable Functions (0)

appearance

- `this.cow` getPaint
- `this.cow` getOpacity

size

- `this.cow` getWidth
- `this.cow` getHeight
- `this.cow` getDepth

other

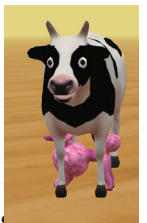
- `this.cow` getDistanceAbove other: ???
- `this.cow` getDistanceBehind other: ???
- `this.cow` getDistanceBelow other: ???
- `this.cow` getDistanceInFrontOf other: ???
- `this.cow` getDistanceTo other: ???
- `this.cow` getDistanceToTheLeftOf other: ???
- `this.cow` getDistanceToTheRightOf other: ???
- `this.cow` getTailArray
- `this.cow` getVantagePoint entity: ???
- `this.cow` getVehicle
- `this.cow` isAbove other: ???
- `this.cow` isBehind other: ???

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Q3. Use math to adjust



- How do we stop poodle before the cow?

`this.poodle` move FORWARD, `this.poodle` getDistanceTo `this.cow`

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Q3. Use math to adjust



- How do we stop poodle before the cow?

```
this.poodle move FORWARD , this.poodle getDistanceTo this.cow
```

– Use math

```
this.poodle move FORWARD , this.poodle getDistanceTo this.cow - 1.0
```

– How does one add the math?

- On down arrow beside number

```
this.poodle move FORWARD , this.poodle getDistanceTo this.cow
```

Q4. How do I get the flamingo to circle around the ostrich?



Q4. How do I get the flamingo to circle around the ostrich?



- Use turn with as seen by

```
this.flamingo turn LEFT , 1.0 , asSeenBy this.ostrich add detail
```

- Which direction do you pick to go forward?
 - The ostrich is to the flamingo's left, so turn left

Q5. Properties

- What can you do with the paint property?
- What does painting an object with white paint do?
- What can you do with opacity property?
- What can you do with the vehicle property?

Q5. Properties

- What can you do with the paint property?
 - Paint an object that color
- What does painting an object with white paint do?
 - Means no color, the original colors show through
- What can you do with opacity property?
 - Make something see through or invisible
- What can you do with the vehicle property?
 - Make an object move when another object moves

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Q6. More on properties

- Where does one change a property instantly when not running code?
- What instructions do you get to use with properties?

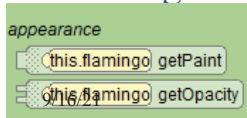
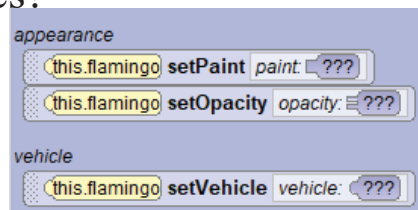
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Q6. More on properties

- Where does one change a property instantly when not running code?
- In setup scene under properties
- Which instructions do you get to use with properties?
 - A set procedure
 - A get built-in function

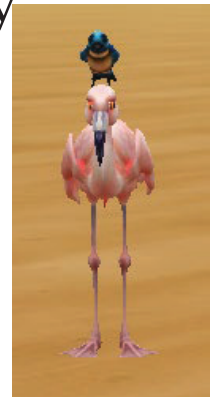


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Q7. Vehicle Property

- Consider
- What happens if the bluebird moves forward?
- What happens if the flamingo moves forward?



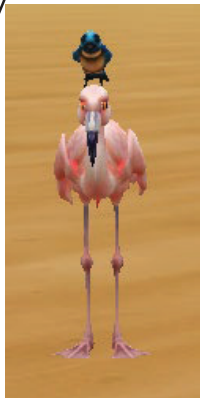
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Q7. Vehicle Property

- Consider



- What happens if the bluebird moves forward?
 - Only the bluebird moves.
- What happens if the flamingo moves forward?
 - The bluebird moves forward with it

Q8. How does one create their own camera marker (not use the ones provided in Alice) ?

Q8. How does one create their own camera marker (not use the ones provided in Alice) ?

- Use any object.
- Change its name to `cameraViewSOMETHING`
- Have it `moveAndOrientTo camera`
- Make it invisible

STOP HERE

What is the best object to use to make your own Camera marker

What is the best object to use to make your own Camera marker

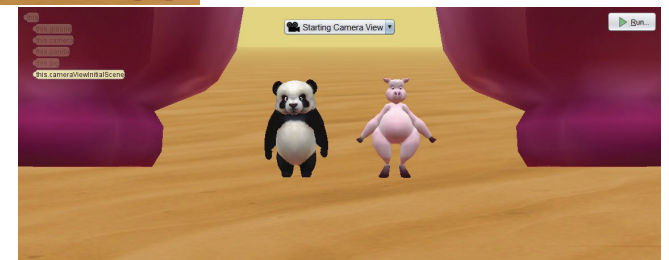
- Use a small quadruped
- It's small and you will see its legs so you know it is on the camera.

Create Poodle as Camera Marker

- Rename the object to the camera view it will be



Poodle moveAndOrientTo camera



Then make the poodle invisible

Class Today

- Using properties, built-in functions and math
- Creating class procedures

