

CompSci 94

Introduction to Events

Mouse Events

October 31, 2024



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Announcements

- Assignment 5 due Thurs, Nov 7
- Videos and online quiz for Tuesday
- Today we start event programming and building games
 - We are using all the programming concepts we have learned

Q1. How do I setup an object marker for the bunny?



Q1. How do I setup an object marker for the bunny?

- Go to scene setup
- Select the bunny first!
- Add objectMarker
- Should see it on the bunny



Q2. How do I use an object marker?



Q2. How do I use an object marker?

- Use it just like a camera marker.
- Bunny `moveAndOrientTo`
`objectMarkerBunny`

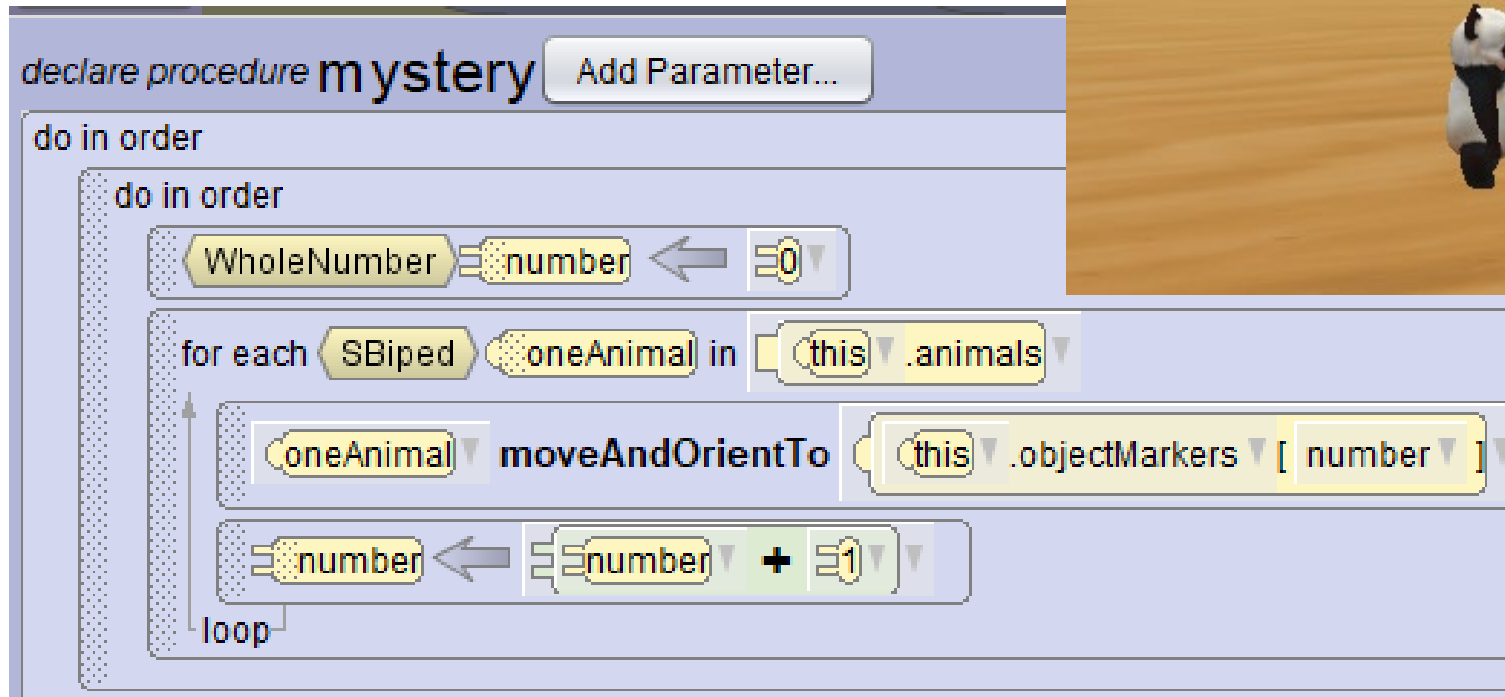


Q3. Consider the following

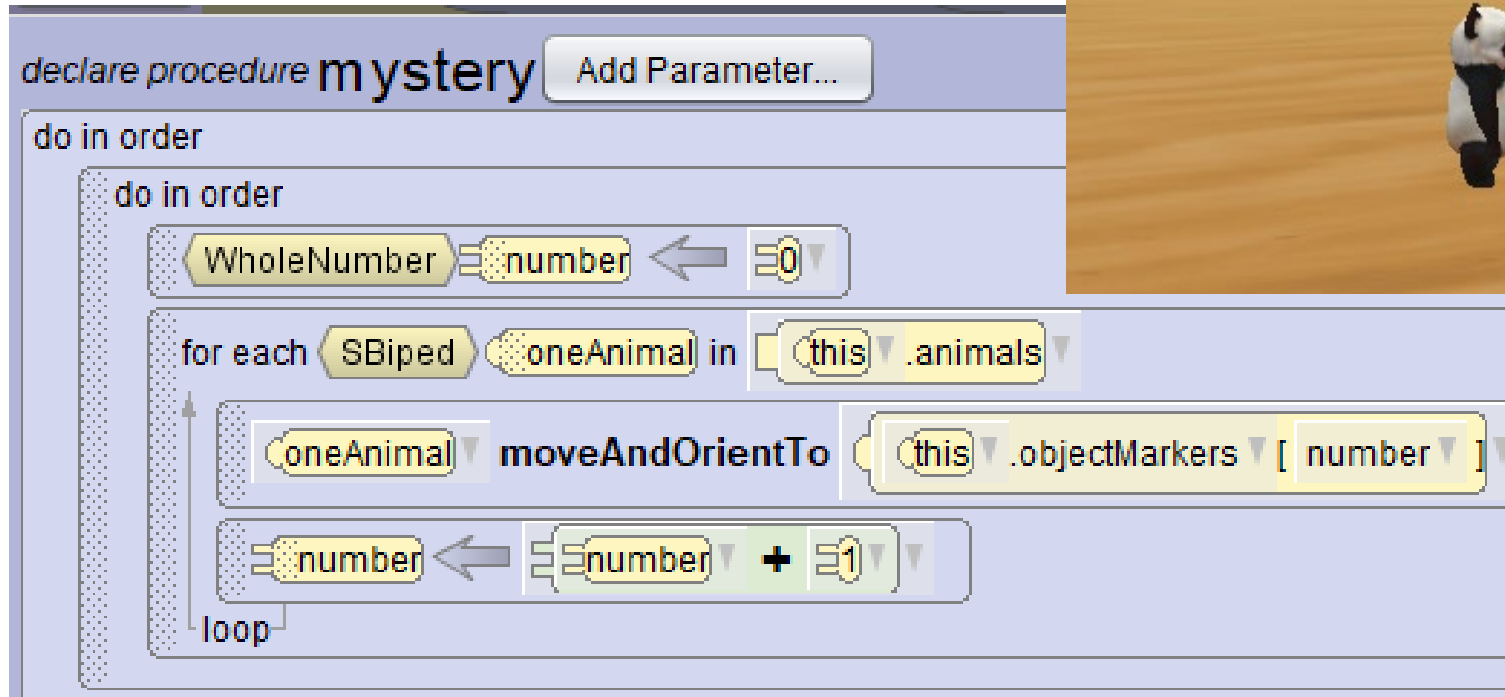
- Have 3 animals in an array named `animals`, and three object markers in an array called `objectMarkers`. They are in the order in the array as shown from left to right.



Q3: Suppose the animals have moved as shown.
What does the mystery procedure do?



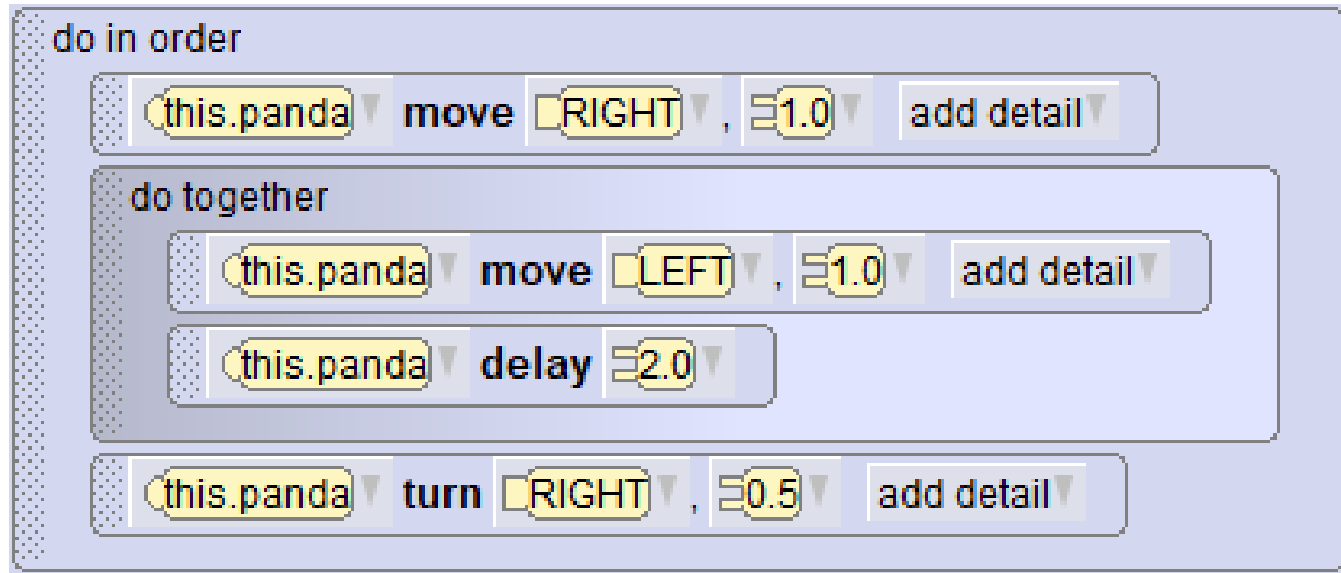
Q3: Suppose the animals have moved as shown.
What does the mystery procedure do?



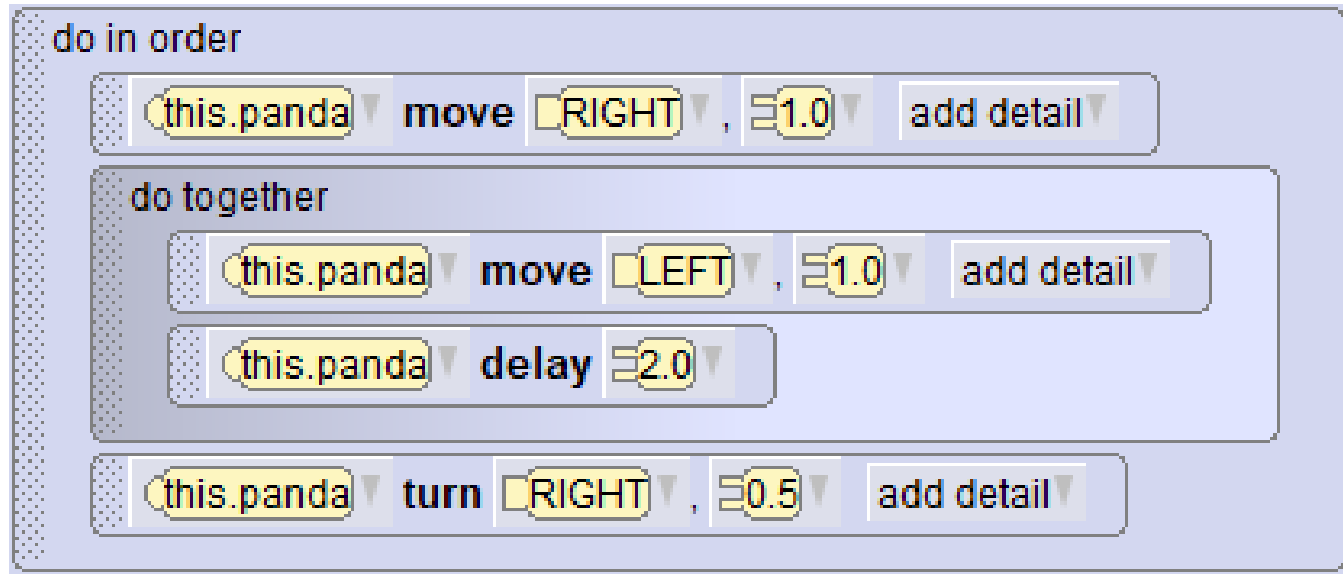
- It moves the animals back to their original position and orientation.



Q4. What does the following code do?



Q4. What does the following code do?



- Panda moves right, then panda moves left
- Then there is a delay of 1 sec, the doTogether has to finish.
- Then the panda turns.

Q5 - How do you fix the code below so you only click on cow and moose for them to turn around?

- A scene has bear cub, cow, dalmatian and moose.



this addMouseClickedOnObjectListener add detail ▼

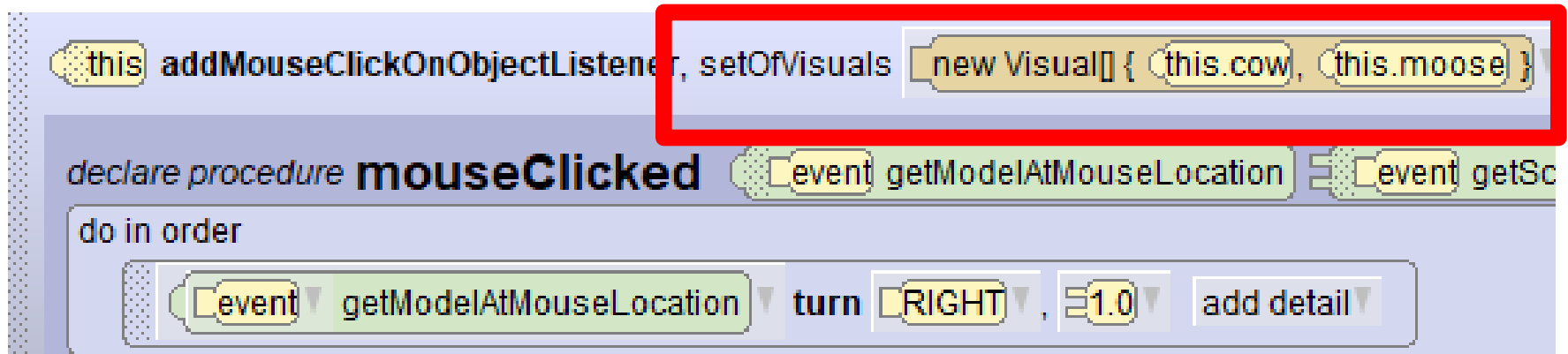
declare procedure **mouseClicked** ☐ event getModelAtMouseLocation

do in order

☐ event ▼ getModelAtMouseLocation ▼ turn ☐ RIGHT ▼ , ☐ 1.0 ▼ add de

Q5 - How do you fix the code below so you only click on cow and moose for them to turn around?

- A scene has bear cub, cow, dalmatian and moose.



- Add Detail – Visual array of cow and moose

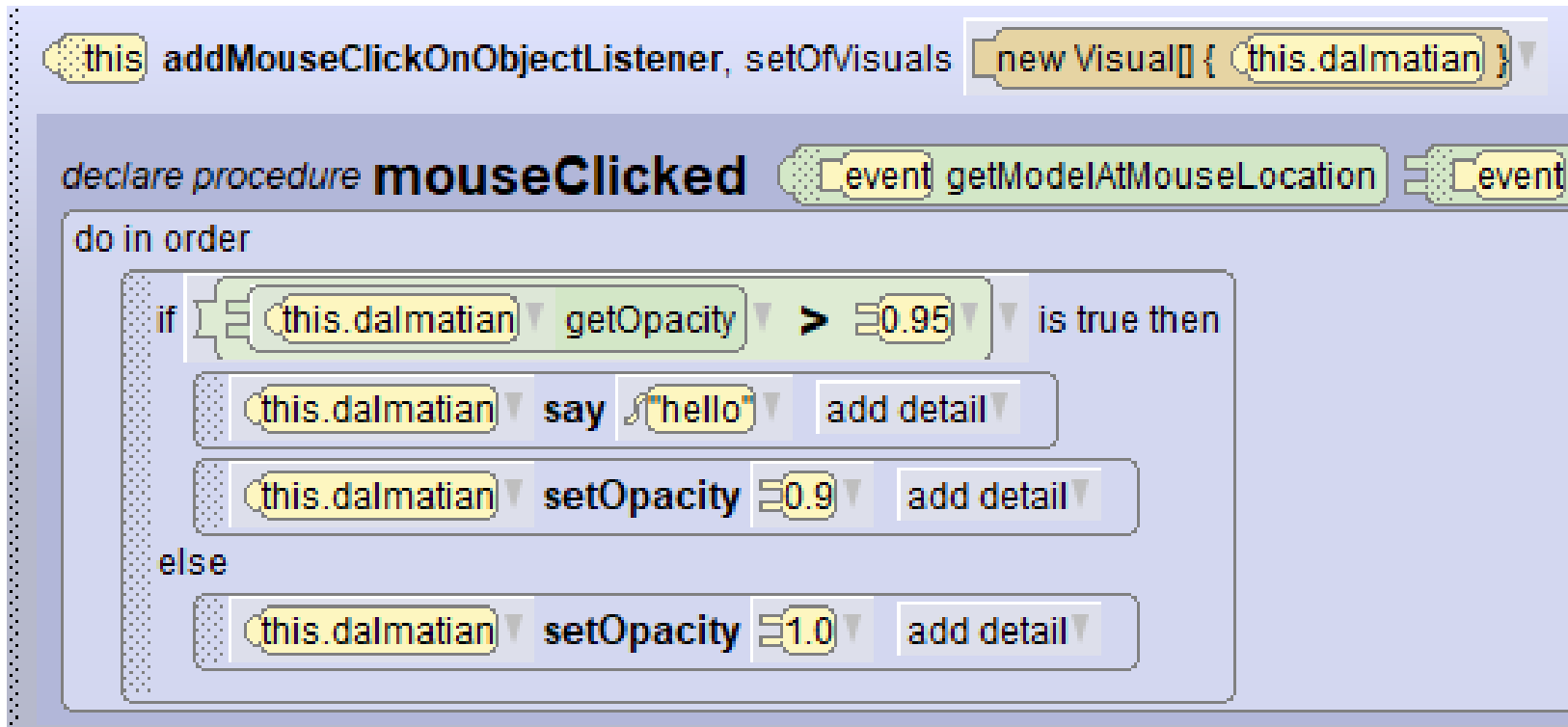
Q6 What does this event do?

The image shows a Scratch script for a mouse click event. The script is as follows:

```
this addMouseClickedOnObjectListener, setOfVisuals new Visual[] { this.dalmatian }  
  
declare procedure mouseClicked event getModelAtMouseLocation event  
do in order  
  if (this.dalmatian.getOpacity > 0.95) is true then  
    this.dalmatian say "hello" add detail  
    this.dalmatian setOpacity 0.9 add detail  
  else  
    this.dalmatian setOpacity 1.0 add detail
```

The script is written in a Scratch-like block-based language. It starts with a block that adds a mouse click listener to a new Visual object, passing `this.dalmatian` as an argument. Below this is a procedure declaration for `mouseClicked`, which takes an `event` parameter and returns the `getModelAtMouseLocation`. The procedure body is enclosed in a `do in order` block. Inside, there is an `if` statement that checks if `this.dalmatian.getOpacity` is greater than `0.95`. If true, it executes two blocks: `this.dalmatian say "hello" add detail` and `this.dalmatian setOpacity 0.9 add detail`. If false, it executes `this.dalmatian setOpacity 1.0 add detail`.

Q6 What does this event do?



- Every other time you click on the dalmatian, it says hello.

Class Today

- Make a simple game

