

CompSci 94

Introduction to Events

Mouse Events

November 8, 2022



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Announcements

- Assignment 4 is due tonight!
- Assignment 5 out, due Thur, Nov 17
- Videos and online quiz for Thursday

- 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?



Q2. How do I use an object marker?



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.

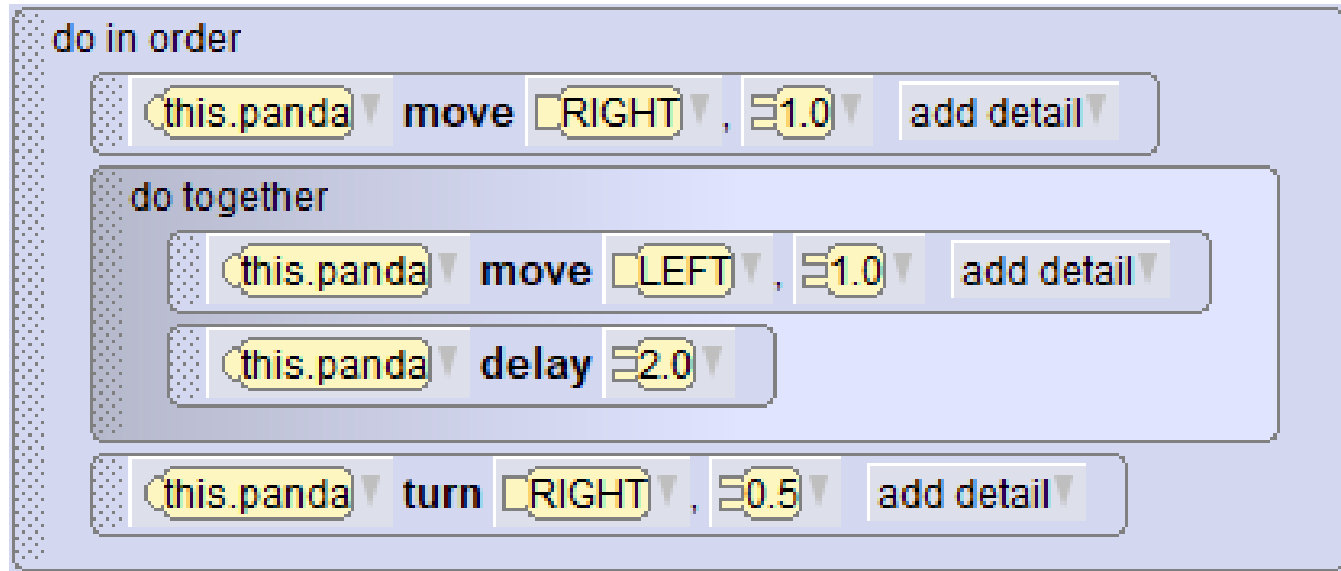


Q3: Suppose the animals have moved as shown.
What does the mystery procedure do?

```
declare procedure mystery Add Parameter...  
do in order  
  do in order  
    WholeNumber ← number ← 0  
    for each SBiped oneAnimal in this . animals  
      oneAnimal moveAndOrientTo this . objectMarkers [ number ]  
      number ← number + 1  
    loop
```



Q4. What does the following code do?



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
```


Q6 What does this event do?

```
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 image shows a Scratch script for a mouseClicked event. The script starts with a 'this' block containing 'addMouseClickedOnObjectListener, setOfVisuals' and a 'new Visual[]' block with a list containing 'this.dalmatian'. Below this is a 'declare procedure mouseClicked' block with two 'event' arguments: 'getModelAtMouseLocation' and 'event'. The main body of the procedure is a 'do in order' block containing an 'if' block. The 'if' block checks if 'this.dalmatian' getOpacity > 0.95. If true, it performs three actions: 'this.dalmatian say "hello" add detail', 'this.dalmatian setOpacity 0.9 add detail', and 'this.dalmatian setOpacity 1.0 add detail'. If false, it performs one action: 'this.dalmatian setOpacity 1.0 add detail'.

Class Today

- Make a simple game

