

# CompSci 94

## A game with two levels

November 12, 2024



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# Announcements

- Assignment 6 (Final project) is out – see deadlines on Assignment page
- TODAY, Nov 12: deadline to request an assigned partner
- Added 4<sup>th</sup> free extension!
- Exam 3 is Nov 19
  - See exam 3 study materials on Nov 19 date on our calendar page
  - Some review today, some next time

# Exam 3 Logistics

- Exam 3 is on Tuesday, Nov 19
- Covers topics through Thursday, Nov 14 lecture
- Old tests are on the calendar web page
- Exam 3 is on paper
- See Exam 3 reference sheet – part of the exam
- Exam 3 is your own work
- Bring only a pen or pencil

# Exam 3 topics

- Topics from last time (loops, arrays, ifs, procedures, parameters, etc)
- Array index loops (see penguin classwork)
- Writing functions
- Event programming
- Changing Scenes (we do on Thursday)

# Events 1

**this** addSceneActivationListener

declare procedure **sceneActivated**

do in order

**this** myFirstMethod

**this** addTimeListener 1.0 add detail

declare procedure **timeElapsed** event getTimeSinceLastFire

do in order

drop statement here

**this** addKeyPressListener add detail

declare procedure **keyPressed** event isLetter event isDigit event getKey event isKey key:

do in order

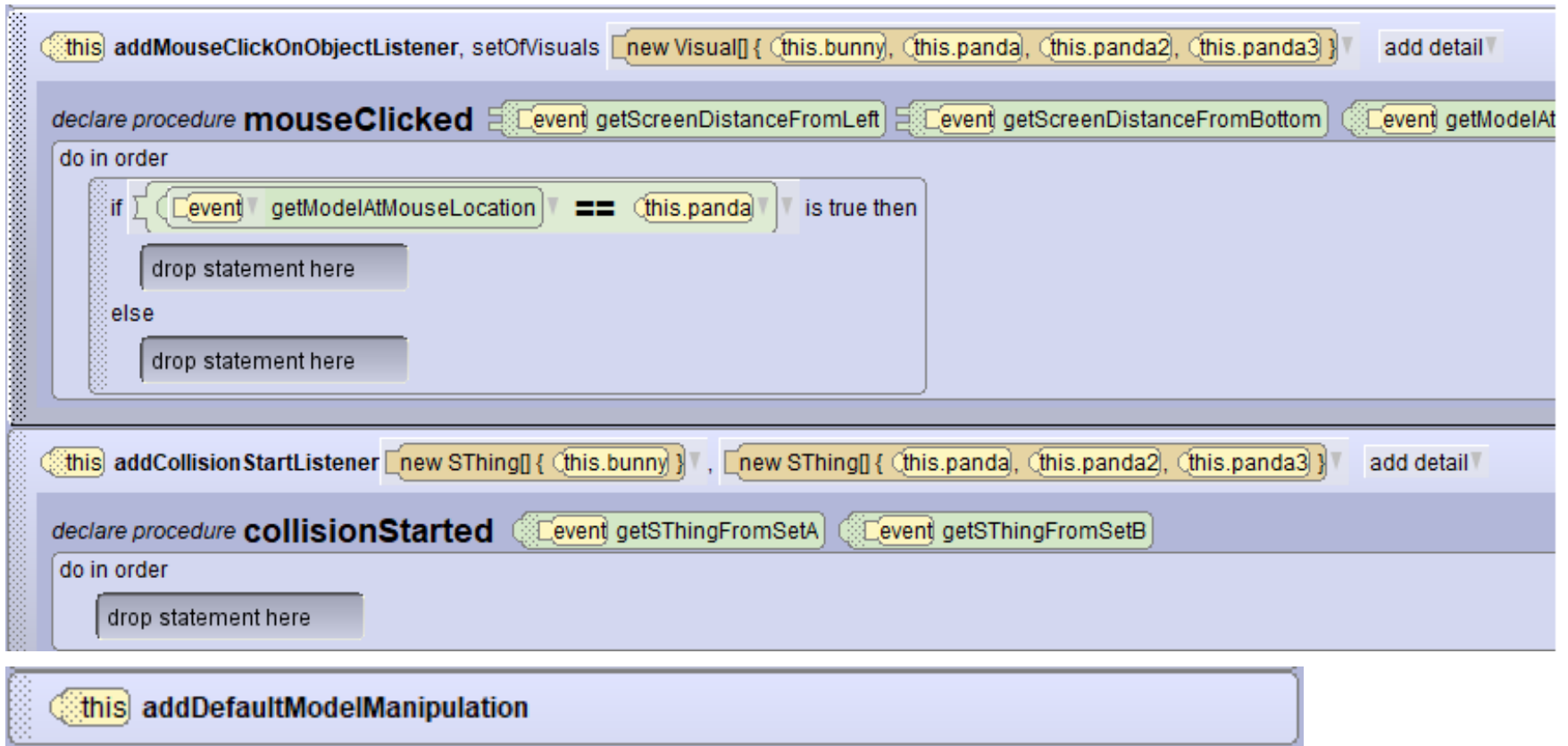
if event isKey S is true then

drop statement here

else

drop statement here

# Events 2



The image displays three Scratch code blocks for event handling. The first block is a 'when green flag clicked' block containing a 'this addMouseClickOnObjectListener' block. This block has two arguments: 'setOfVisuals' (a 'new Visual[]' block with arguments 'this.bunny', 'this.panda', 'this.panda2', and 'this.panda3') and 'add detail'. Below this is a 'declare procedure mouseClicked' block with three arguments: 'event', 'getScreenDistanceFromLeft', and 'getScreenDistanceFromBottom'. The 'do in order' section contains an 'if' block with the condition 'event getModelAtMouseLocation == this.panda'. If true, it contains a 'drop statement here' block; otherwise, it also contains a 'drop statement here' block. The second block is a 'when green flag clicked' block containing a 'this addCollisionStartListener' block. It has two arguments: 'new SThing[]' (with argument 'this.bunny') and 'new SThing[]' (with arguments 'this.panda', 'this.panda2', and 'this.panda3'). Below this is a 'declare procedure collisionStarted' block with two arguments: 'event' and 'getSThingFromSetA'. The 'do in order' section contains a 'drop statement here' block. The third block is a 'when green flag clicked' block containing a 'this addDefaultModelManipulation' block.

```
this addMouseClickOnObjectListener, setOfVisuals new Visual[] { this.bunny, this.panda, this.panda2, this.panda3 } add detail  
  
declare procedure mouseClicked event getScreenDistanceFromLeft event getScreenDistanceFromBottom event getModelAt  
do in order  
  if event getModelAtMouseLocation == this.panda is true then  
    drop statement here  
  else  
    drop statement here  
  
this addCollisionStartListener new SThing[] { this.bunny }, new SThing[] { this.panda, this.panda2, this.panda3 } add detail  
  
declare procedure collisionStarted event getSThingFromSetA event getSThingFromSetB  
do in order  
  drop statement here  
  
this addDefaultModelManipulation
```

# Events – when does it start, how does it work?

- sceneActivated
- addTimeListener
- keyPressed

# Events – when does it start, how does it work? (part 3)

- defaultModelManipulation

# How do you create a Scorer (or counter)

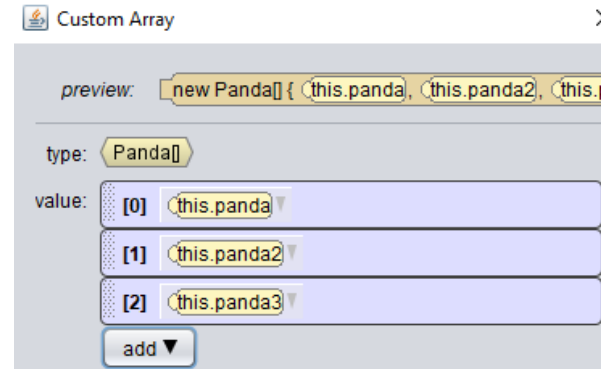
- A scorer/counter

# How do you create A Countdown Timer

# Looping in Array – when and how to use each one

- For each in
- Each in together
- Indexing loop

Q1) Given an array of pandas, how do I create an array of objectMarkers that match the pandas in the same order



Q2) Given pandas moved, what type of loop do you use to get them all back to their objectMarkers?



Q3) Given pandas moved, explain in words how to get them all back to their objectMarkers?



Q4: If we want to play a two level game, what might be the best game flow?

# Class Today

- Build game with two levels

