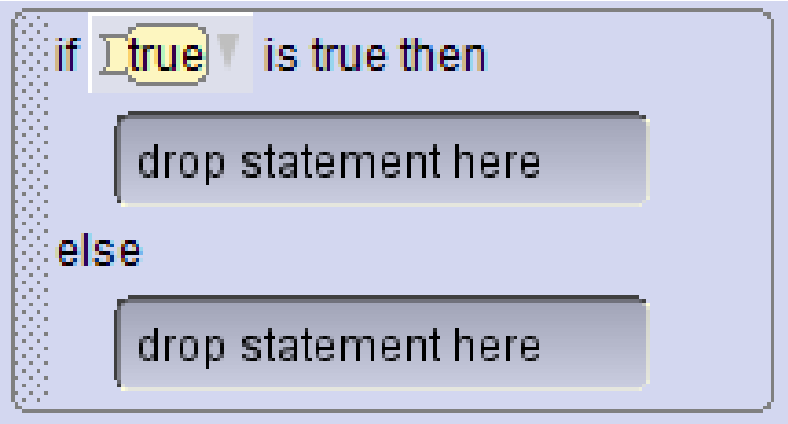
CompSci 94
Making Decisions with If statements
September 30, 2021



Prof. Susan Rodger

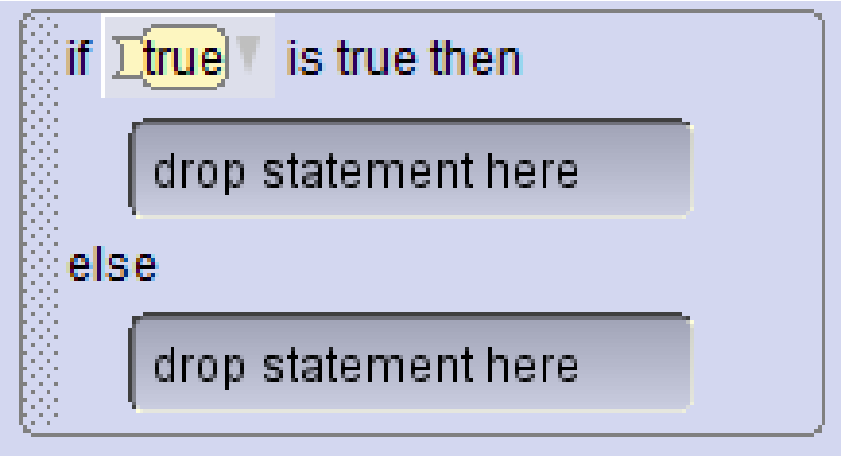
Announcements

- Assignment 3 due tonight!
  - Don’t forget the reflect form
- Videos and QZ10 due Thursday, Oct 7 when class starts

- Don’t get behind, be sure to check your grades on Sakai for Classwork

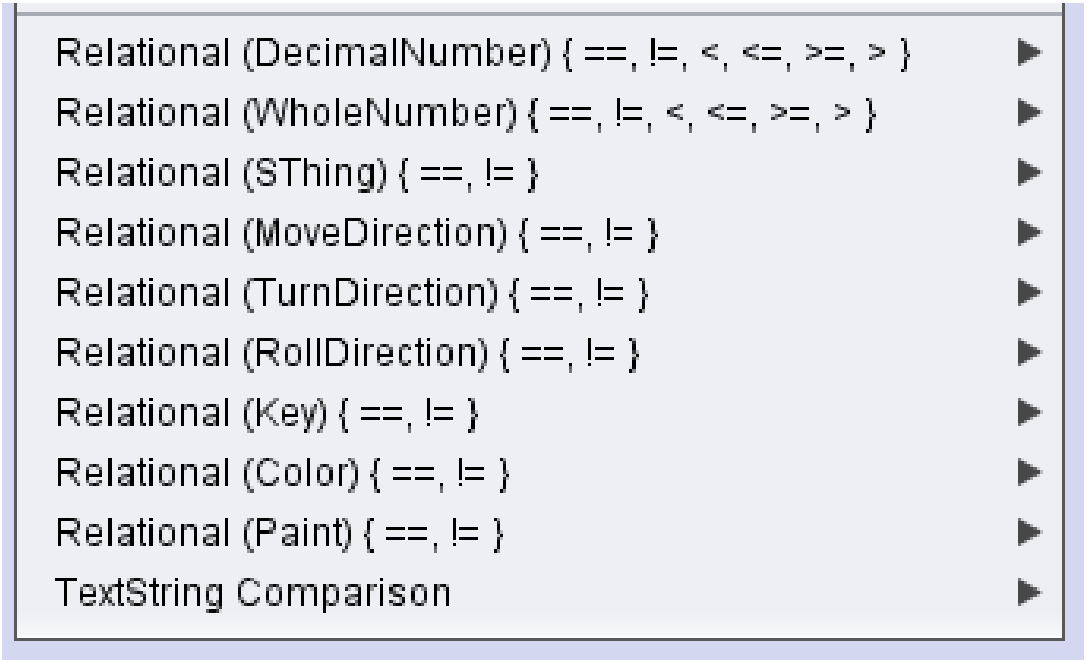
If statements

- What types can you compare in an if statement?



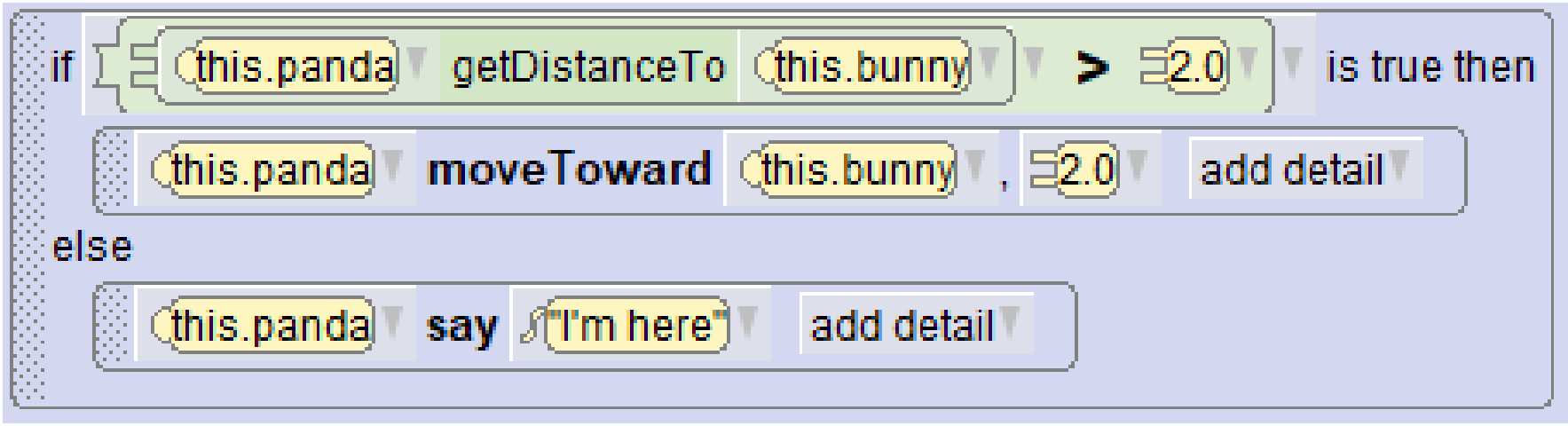
If statements

- What types can you compare in an if statement?
  - Numbers
  - Directions
  - Paints
  - TextStrings
  - Objects
  - etc



Q1 Panda distanceTo

- What does this code do when it executes?



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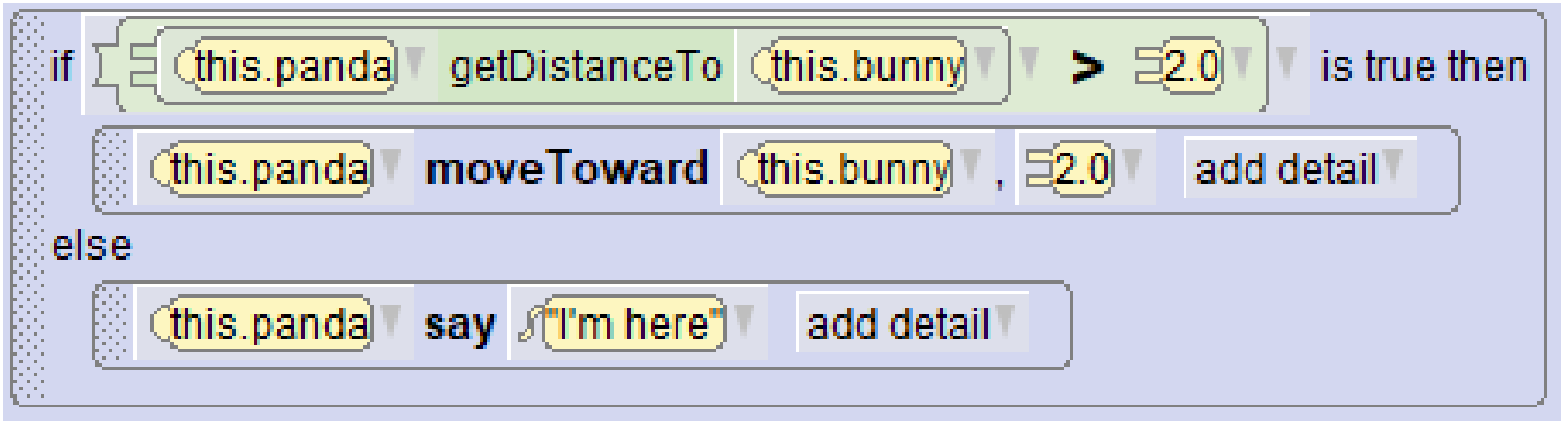
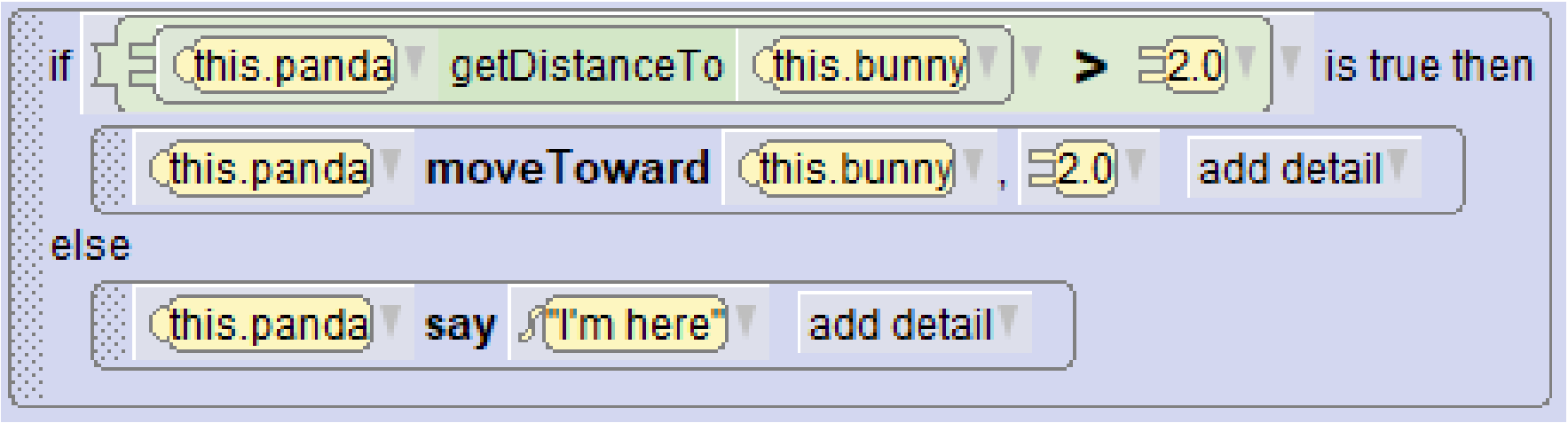


  - If the panda is more than two units from the bunny, the panda moves two units towards the bunny
  - Otherwise the panda says "I'm here"
- If the panda is 3 units from the bunny, can both the panda move and say "I'm here" happen?
  - NO! only one happens

Q2. Create line w/ Panda distanceTo

- How does one create **first line** of this code?



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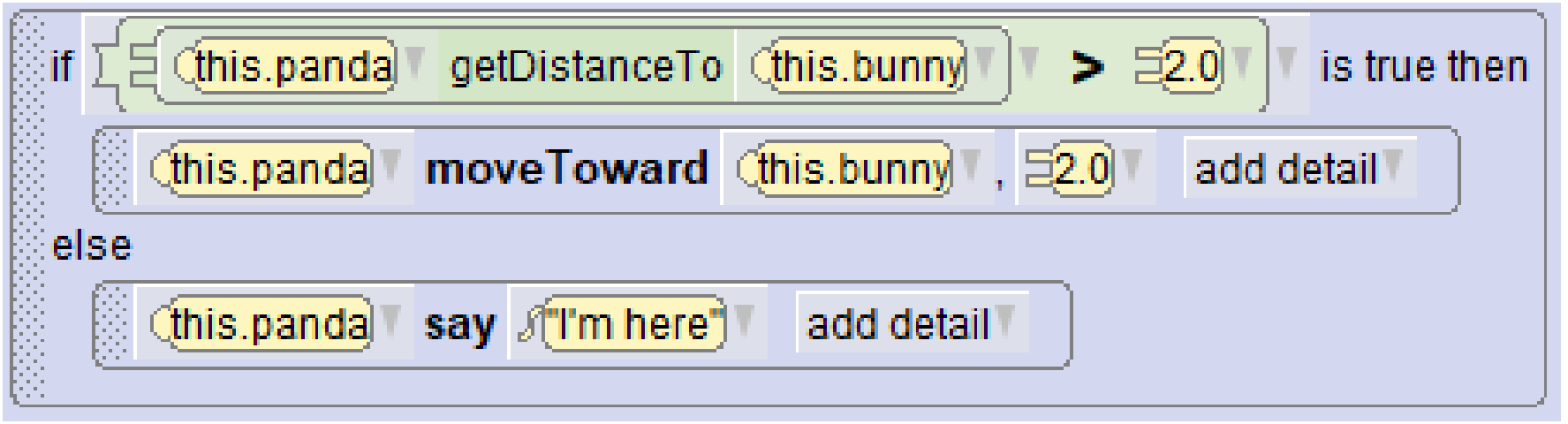
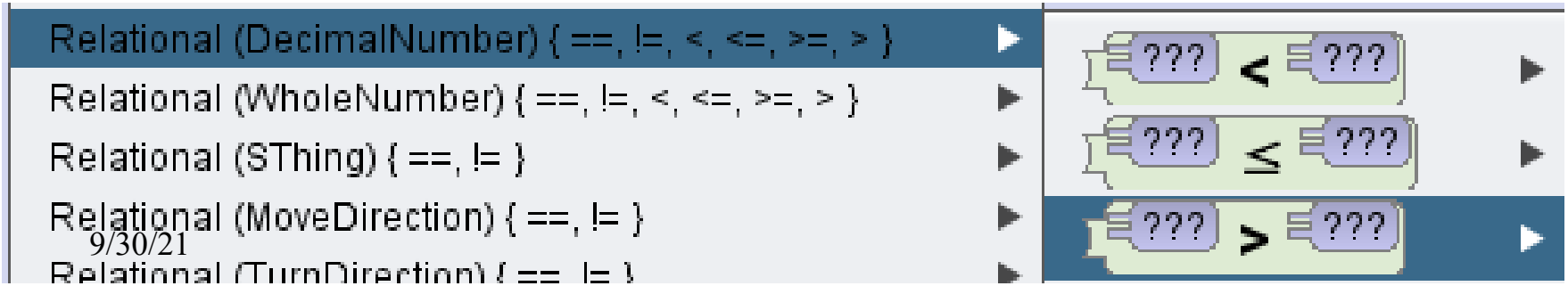


  - First drag in an IF tile and select True
  - Then click on True and select *decimal number compare with greater than*



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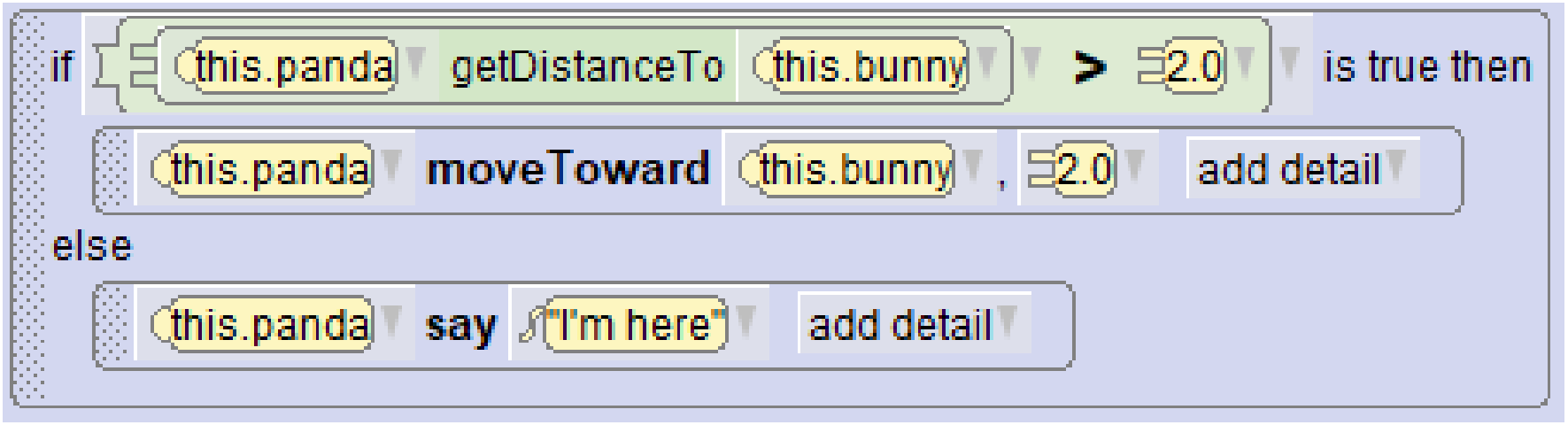
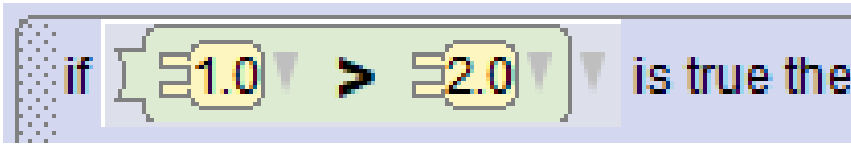


  - First drag in an IF tile and select True
  - Then click on True and select *decimal number compare with greater than*
  - Select numbers 1.0 and 2.0
  - Replace the 1.0 by dragging the function over it



Q3 Making decisions - If statement

- What happens when this code runs?

```
if this.panda getPaint ≠ RED is true then
    this.panda setPaint RED add detail
else
    this.panda setPaint BLUE add detail
if this.panda getPaint ≠ RED is true then
    this.panda setPaint RED add detail
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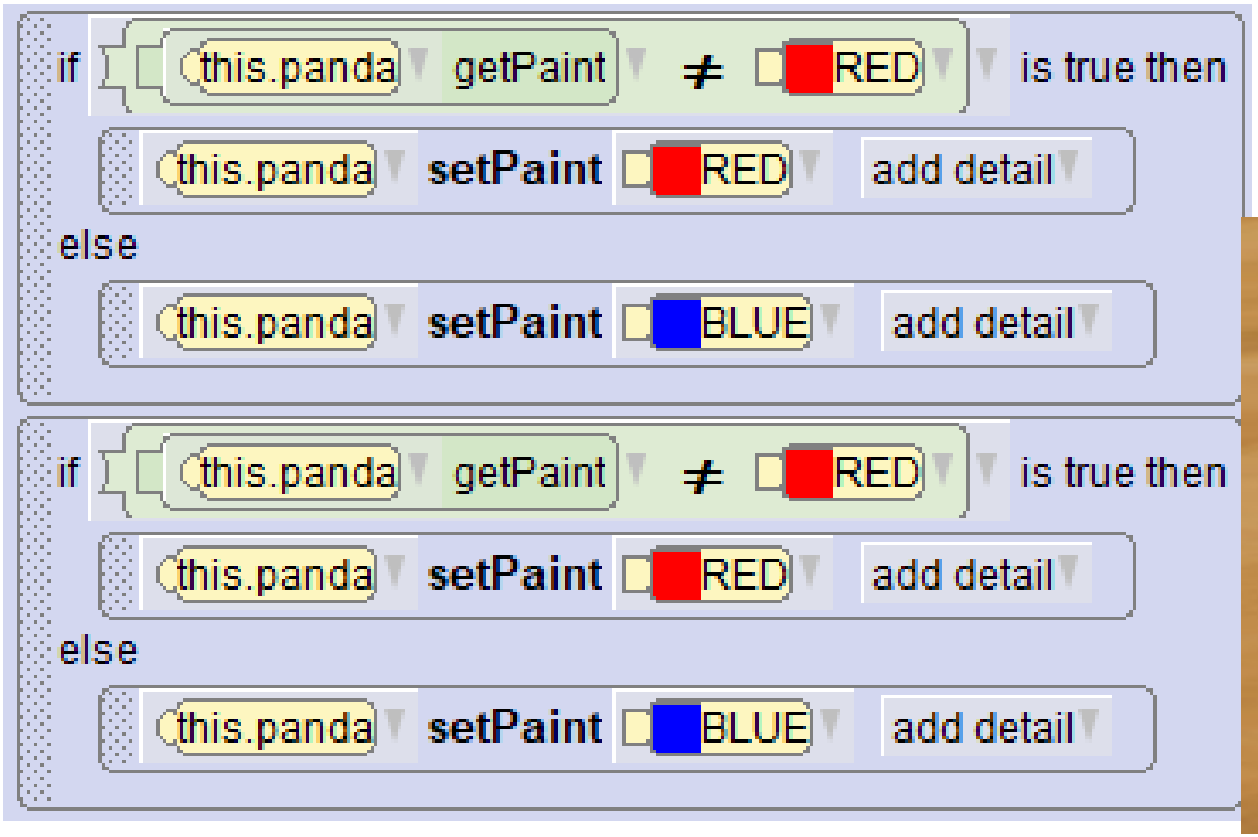
Q3 Making decisions - If statement

- What happens when this code runs?



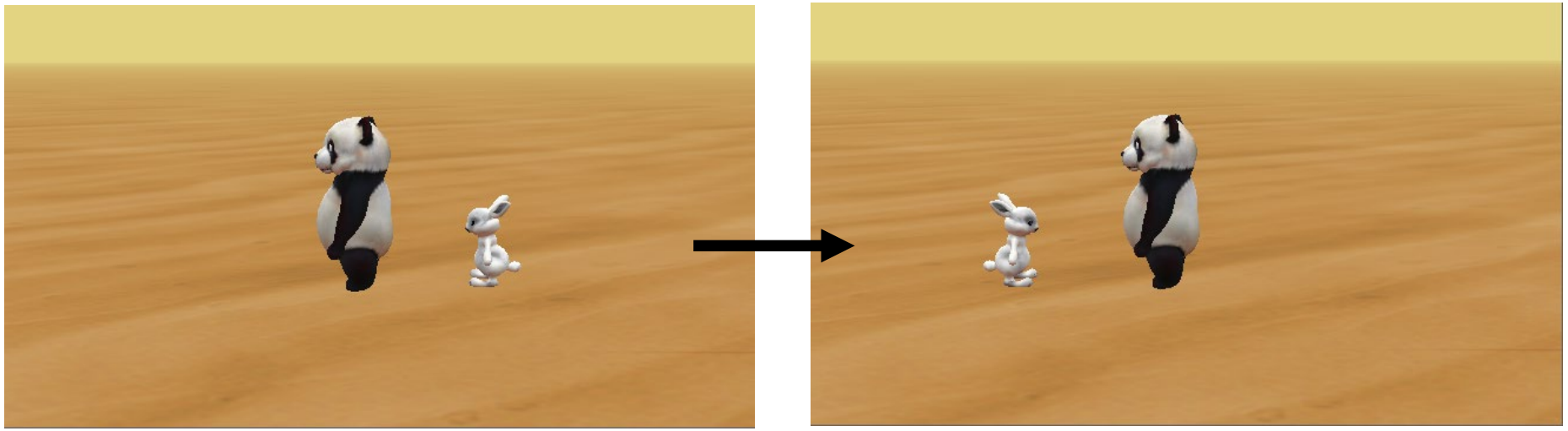
  - Panda turns red and then panda turns blue

Q4 What happens when this If executes?

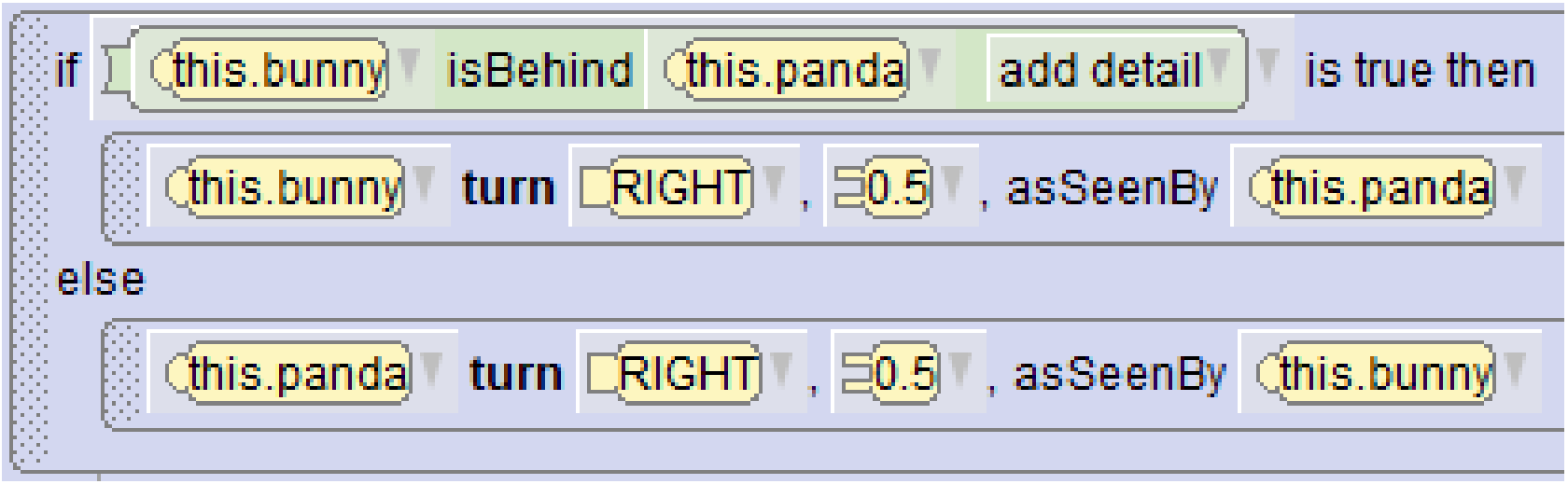
```
if [this.bunny isBehind this.panda add detail] is true then
    this.bunny turn RIGHT, 0.5, asSeenBy this.panda
else
    this.panda turn RIGHT, 0.5, asSeenBy this.bunny
```

Q4 What happens when this If executes?

```
if [this.bunny] isBehind [this.panda] [add detail] is true then
    [this.bunny] turn [RIGHT], [0.5], asSeenBy [this.panda]
else
    [this.panda] turn [RIGHT], [0.5], asSeenBy [this.bunny]
```



Q5 Execute a copy of the if again? (execute the same code a second time)



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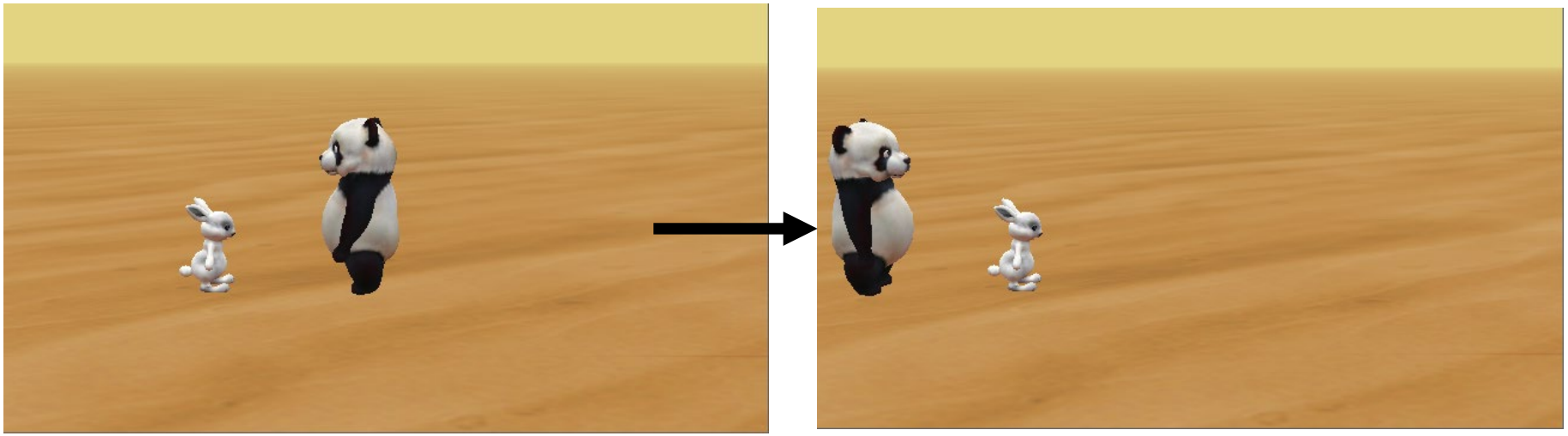
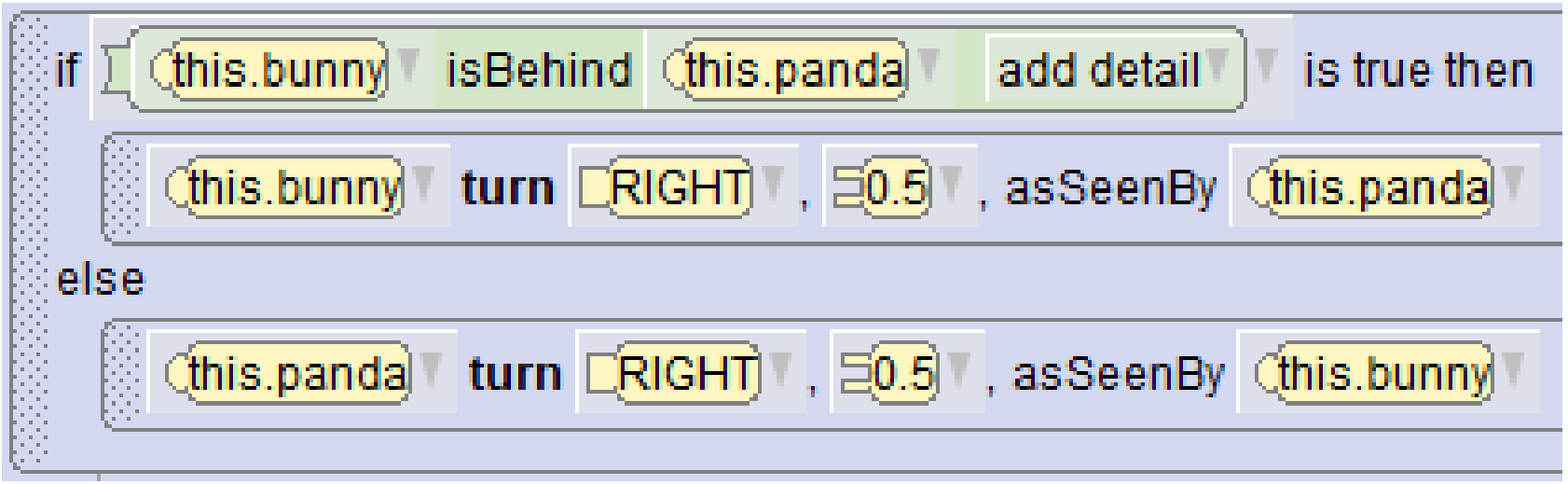


Q6 Execute a third copy of the if?



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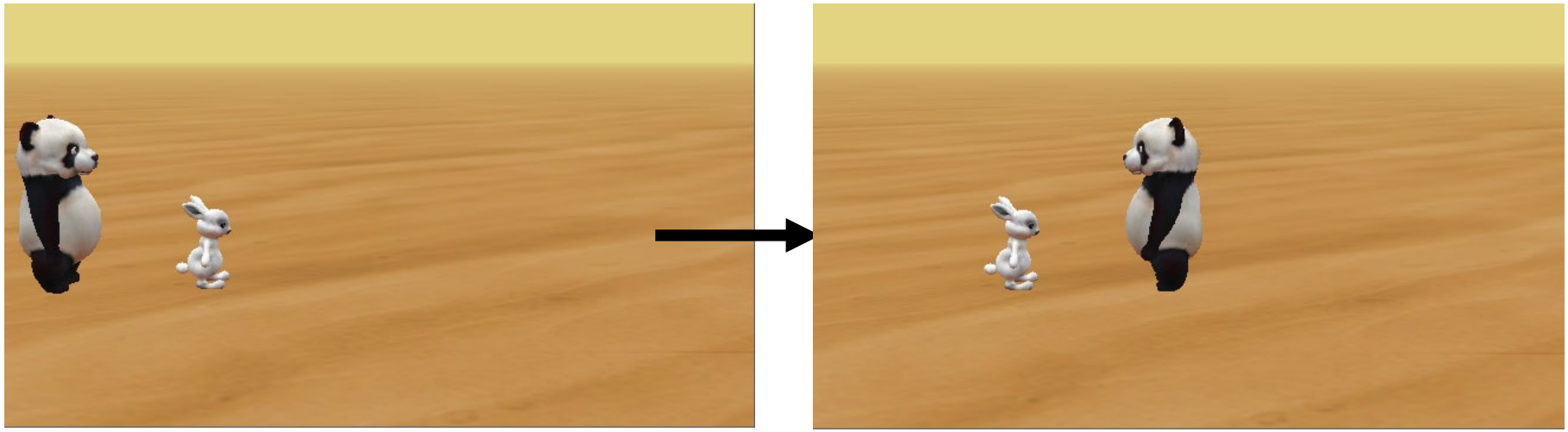

Class Today

- Working with making decisions