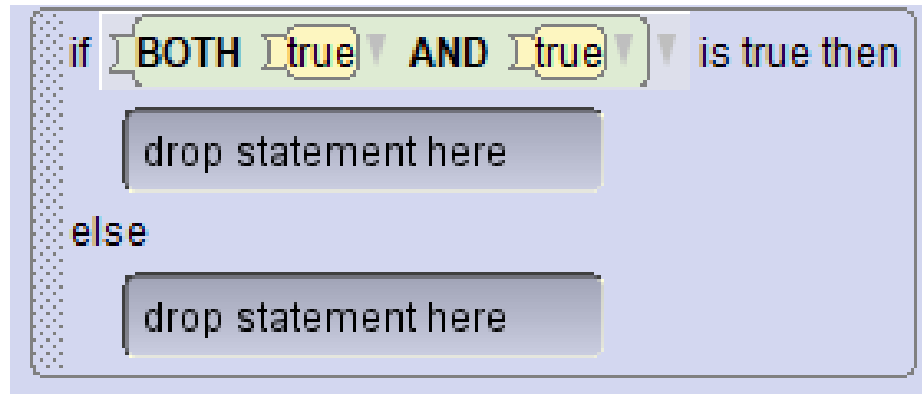


CompSci 94

Logic with Ifs, Nested Ifs

October 13, 2022



Prof. Susan Rodger

Announcements

- Assignment 3 due Tues. Oct 18
 - Also fill out reflect form!
- Next QZ and Videos due Tuesday when class starts
 - They are up!

Q1. Review Nested IF

- What happens if the diningTable has width 1.7 and depth 1.0?

The image shows a Scratch script with the following structure:

- if** `this.diningTable` `getWidth` `>` `1.5` `is true then`
 - if** `this.diningTable` `getDepth` `>` `1.0` `is true then`
 - `this.alien` `say` `"table is larger than 1.5 square feet"` `add detail`
 - else**
 - `this.diningTable` `say` `"hello"` `add detail`
 - `this.diningTable` `resize` `1.2` `add detail`
- else**
 - `this.diningTable` `say` `"Whoa"` `add detail`
 - `this.diningTable` `resize` `2.0` `add detail`

Q2. Logic Review

- What are possible values of A and B
 - if **A and B** is True?
 - if **A or B** is True?
 - if **A or B** is False?

Logic Truth Table

A	B	not A	A and B	A or B
True	True	False	True	True
True	False	False	False	True
False	True	True	False	True
False	False	True	False	False

Q3. Consider this code – Nested Ifs How would you write it with ONE IF?



Q4. What does bunny say?

```
if BOTH (this.bunny.getPaint() == RED) AND (this.panda.getHeight() > this.bunny.getHeight())
  this.bunny.say("first")
else
  if (this.panda.getHeight() <= this.bunny.getHeight())
    this.bunny.say("second")
  else
    if (this.bunny.getPaint() != RED)
      this.bunny.say("third")
    else
      this.bunny.say("fourth")
```

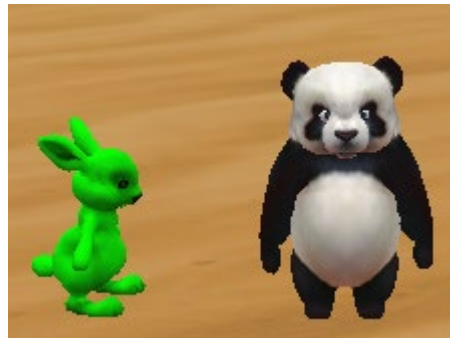
Bunny is red
to start.



Q5. Bunny different. What does bunny say?

```
if BOTH { this.bunny.getPaint() == RED } AND { this.panda.getHeight() > this.bunny.getHeight() }
  this.bunny.say("first").addDetail()
else
  if { this.panda.getHeight() <= this.bunny.getHeight() } is true then
    this.bunny.say("second").addDetail()
  else
    if { this.bunny.getPaint() != RED } is true then
      this.bunny.say("third").addDetail()
    else
      this.bunny.say("fourth").addDetail()
```

Bunny is
green to start.



Q6. Give an example to make bunny say fourth

The image shows a Scratch script with the following logic:

- if BOTH** `this.bunny.getPaint() == RED` **AND** `this.panda.getHeight() > this.bunny.getHeight()`
 - `this.bunny.say("first")` `add detail`
- else**
 - if** `this.panda.getHeight() ≤ this.bunny.getHeight()` **is true then**
 - `this.bunny.say("second")` `add detail`
 - else**
 - if** `this.bunny.getPaint() ≠ RED` **is true then**
 - `this.bunny.say("third")` `add detail`
 - else**
 - `this.bunny.say("fourth")` `add detail`

Class Today

- Nested Ifs, Logic – and/or/not

