CompSci 94 Logic with Ifs, Nested Ifs September 17, 2020

```
if BOTH True AND True is true then drop statement here else drop statement here
```

Prof. Susan Rodger

Announcements

- Assignment 3 due Tuesday night
- Next RQ and Videos due Tuesday 10:15am
 - They are up!
- Exam 1 Tuesday, Sept 29
 - Old exams on resources tab
 - Review next Thursday

WOTO-1 Properties, Math http://bit.ly/94f20-0917-1

- Remember to introduce yourselves
- Discuss and each of you fill out a form
- 9 minutes

Review Nested IF

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

```
(this.diningTable) getWidth ▼
                               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
```

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	В	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

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

```
(this.diningTable) ▼ getOpacity ▼ > ≡0.99 ▼ ▼
                                                       is true then
  if ∑ (this.alien) ▼ isBehind (this.diningTable) ▼ add detail ▼
                                                                    is true then
         (this.alien ▼ serveFood
    else
         (this.alien) ▼ say A No service today ▼
                                                   add detail
else
     (this.alien) ▼ say A No service today ▼
                                              add detail
```

What does bunny say?

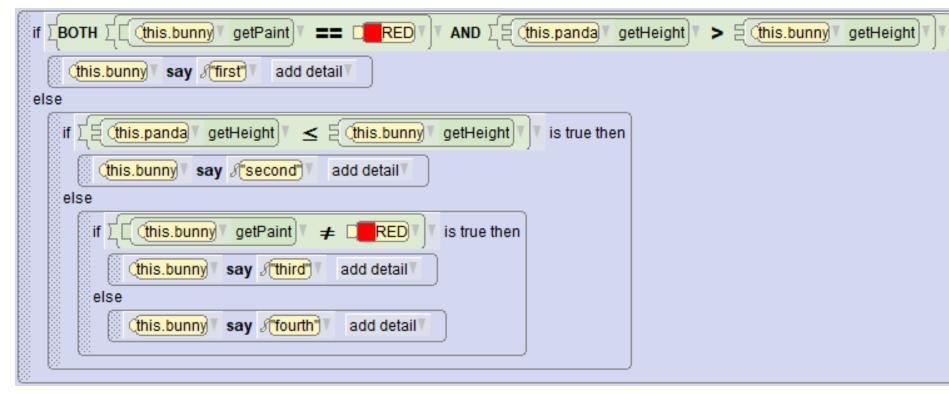
```
BOTH I (this.bunny getPaint) == DERED AND I (this.panda) getHeight > (this.bunny getHeight)
    (this.bunny) say first
                             add detail
else
   if ∑ (this.panda) ▼ getHeight ▼ ≤  (this.bunny) ▼ getHeight ▼ ▼ is true then
        (this.bunny ▼ say & second ▼
                                    add detail
   else
            (this.bunny getPaint V
                                         RED) V
                                                  is true then
            (this.bunny ▼ say Athird ▼
                                     add detail
       else
            (this.bunny) ▼ say A fourth
```

Bunny is red to start.



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Bunny different. What does bunny say?

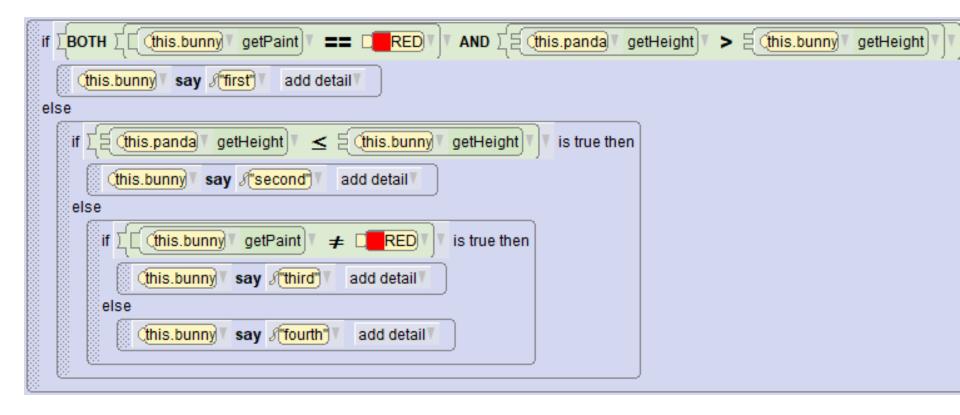


Bunny is green to start.



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Give an example to make bunny say fourth



Class Today

• Nested Ifs, Logic – and/or/not



