CompSci 94
Logic with Ifs, Nested Ifs
October 7, 2021

Prof. Susan Rodger
Announcements

• 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?
Q1. Review Nested IF
• What happens if the diningTable has width 1.7 and depth 1.0?
  – diningTable says hello and is resized larger by 1.2
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?
Q2. Logic Review

• What are possible values of A and B
  – if A \textbf{and} B is True?
    • A must be True, B must be True
  – if A \textbf{or} B is True?
    • A must be True or B must be True
  – if A \textbf{or} B is False?
    • A must be False, B must be false
## Logic Truth Table

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>not A</th>
<th>A and B</th>
<th>A or B</th>
</tr>
</thead>
<tbody>
<tr>
<td>True</td>
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### Logic Truth Table

A AND B is **true** only if both A and B are **true**

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</table>
**Logic Truth Table**

A OR B is **false** only if both A and B are **false**

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Q3. Consider this code – Nested Ifs
How would you write it with ONE IF?
Rewrite Code - one IF with AND

```plaintext
if (BOTH this.diningTable.getOpacity > 0.99 AND this.alien.isBehind this.diningTable) {
    this.alien.serveFood;
} else {
    this.alien.say("No service today");
}
```
Q4. What does bunny say?

Bunny is red to start.
Q4. What does bunny say?

Bunny is red to start.

Bunny says: second
Q5. Bunny different. What does bunny say?

Bunny is green to start.
Q5. Bunny different. What does bunny say?

Bunny is green to start.

Bunny says: third
Q6. Give an example to make bunny say fourth
Q6. Give an example to make bunny say "fourth"

Bunny is painted red AND
Panda is shorter than bunny
Give an example to make bunny say fourth

Bunny is painted red AND
Panda is shorter than bunny

NO!!!!!!!!!!!!!!!
No way bunny will ever say fourth!

10/7/21
Class Today

• Nested Ifs, Logic – and/or/not