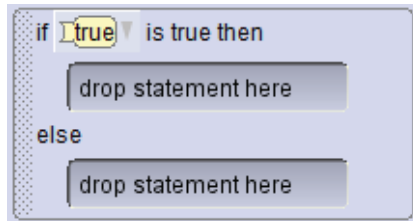


CompSci 94

Making Decisions with If statements

September 30, 2021



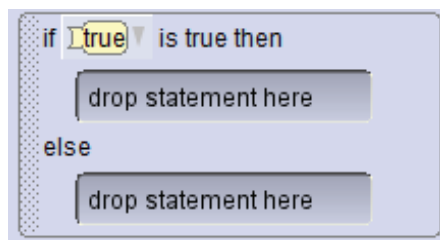
Prof. Susan Rodger

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

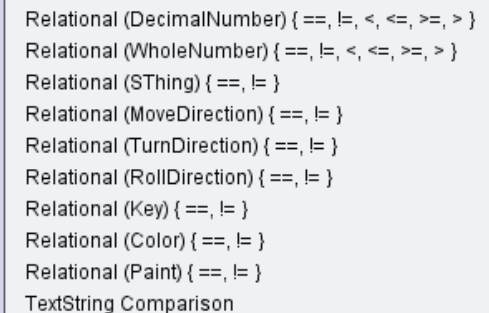
If statements

- 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



```
Relational (DecimalNumber) { ==, !=, <, <=, >=, > }
Relational (WholeNumber) { ==, !=, <, <=, >=, > }
Relational (SThing) { ==, != }
Relational (MoveDirection) { ==, != }
Relational (TurnDirection) { ==, != }
Relational (RollDirection) { ==, != }
Relational (Key) { ==, != }
Relational (Color) { ==, != }
Relational (Paint) { ==, != }
TextString Comparison
```

Q1 Panda distanceTo

- What does this code do when it executes?

```
if (this.panda.getDistanceTo(this.bunny) > 2.0) is true then
  this.panda.moveToToward(this.bunny, 2.0) add detail
else
  this.panda.say("I'm here") add detail
```

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Q2. Create line w/ Panda distanceTo

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

```
if (this.panda.getDistanceTo(this.bunny) > 2.0) is true then
  this.panda.moveToToward(this.bunny, 2.0) add detail
else
  this.panda.say("I'm here") add detail
```

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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
else
  this.panda.setPaint(BLUE) add detail
```



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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))
```



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

```
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]
```

Q6 Execute a third copy of the if?

```
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]
```

Class Today

- Working with making decisions

