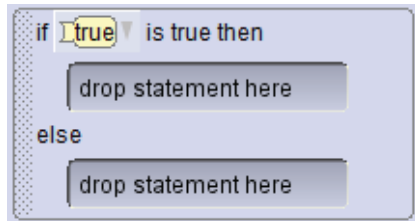


# CompSci 94

## Making Decisions with If statements

October 6, 2022



Prof. Susan Rodger

10/6/22

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1

## Announcements

- Assignment 3 due Oct 18!
  - Don't forget the reflect form
- Videos and QZ10 due Thursday, Oct 13 when class starts
- Don't get behind, be sure to check your grades on Sakai for Classwork

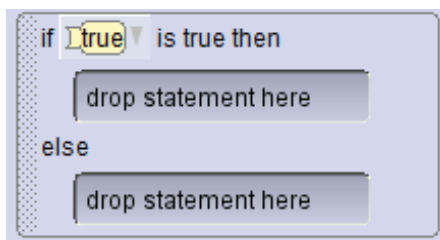
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2

## If statements

- What types can you compare in an if statement?



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3

## 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 ▶
```

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4

## 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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5

## 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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7

## 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
```



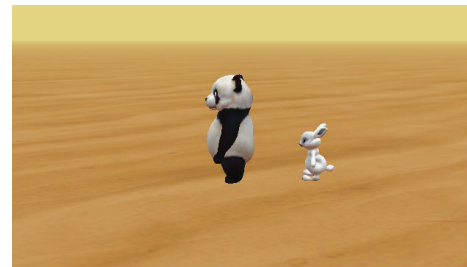
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10

## 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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12

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

