CompSci 94
Arrays, Loops with Arrays
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Arrays

• What is an array?

• Why create an array?

• Can an object be in more than one array?
Arrays

• What is an array?
  – A group of similar objects
  – Examples: All flyers, all decimalNumbers, all SJointedModel

• Why create an array?
  – Can have just one instruction for every item in the array
  – Less code

• Can an object be in more than one array?
  – Yes!
How and Where does one create an array?
How and Where does one create an array?

• Create as a Scene Property

• Go to bottom of page and add there.
Example – Build array of Flyers

• Be sure to check box by “is array”
• Must add Objects into the array
Result
What is the order the birds do something here?

- Move their wings in this order: Phoenix, chicken, flamingo, penguin, ostrich, then the same order again.
What is the order the birds do something here?

- Move their wings in this order: Phoenix, chicken, flamingo, penguin, ostrich, then SAME order again.
What does this code do?

- The birds turn red one at a time. Then at the same time they all turn blue.
What does this code do?

- The birds in array lotsOfBirds turn red one at a time. Then at the same time they all turn blue.
What does this code do?

- Phoenix says greetings one at a time
- Then Penguin says the greetings all at once
What does this code do?

- Phoenix says greetings one at a time
- Then Penguin says the greetings all at once
What does this code do?

for each Flyer someBird2 in this lotsOfBirds

for each TextString somePhrase in this greetings

someBird2 say somePhrase add detail
What does this code do?

- Each bird in the array lotsOfBirds, one at a time, says the phrases in the array greetings, one at a time.
What does this error mean?

"someBird" is not available.
What does this error mean?

- This name already exists. You must use a different name for each loop!
BE CAREFUL!

- When naming loop variable

- Don’t CUT and PASTE ARRAY LOOP code
BE CAREFUL!

• When naming loop variable
  – Don’t use the name of anything else in your program.
    • Don’t use penguin, etc.
    • Use someBird, someBird2, someBird3

• Don’t CUT and PASTE ARRAY LOOP code
  – This can lead to using a variable from the wrong loop. Your Alice code will freeze!
Announcements

- RQ13 and Videos for next time
Class Today

• Iterating through Arrays