

CompSci 94

Arrays, Loops with Arrays

October 19, 2021



Prof. Susan Rodger

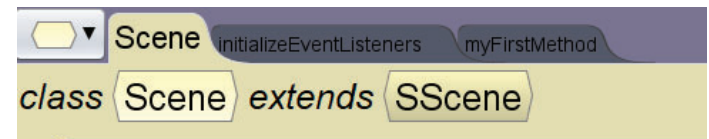
Announcements

- QZ and Videos for next time
- Assignment 4 out today, due Oct 28

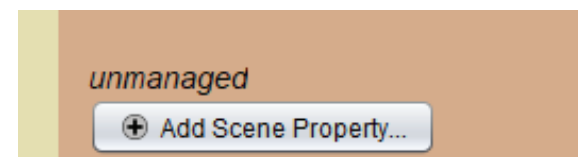
How and Where does one create an array?

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- Create as a Scene Property

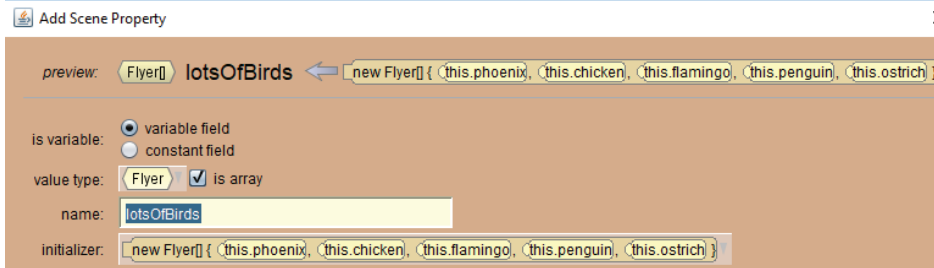


- Go to bottom of page and add there.

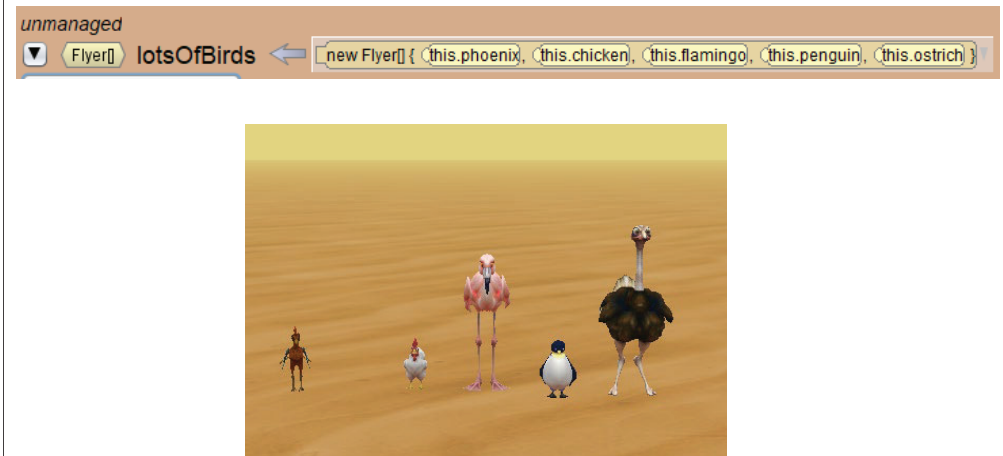


Example – Build array of Flyers

- Be sure to check box by “is array”
- Must add Objects into the array



Result



Q1. Arrays

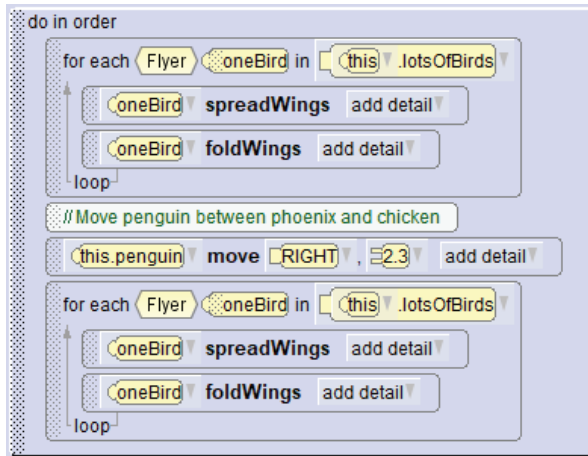
- What is an array?
- Why create an array?
- Can an object be in more than one array?

Q1. 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!

Q2. What is the order the birds do something here?

```
lotsOfBirds ← new Flyer[] { (this.phoenix), (this.chicken), (this.flamingo), (this.penguin), (this.ostrich) }
```



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Q2. What is the order the birds do something here?

```
lotsOfBirds ← new Flyer[] { (this.phoenix), (this.chicken), (this.flamingo), (this.penguin), (this.ostrich) }
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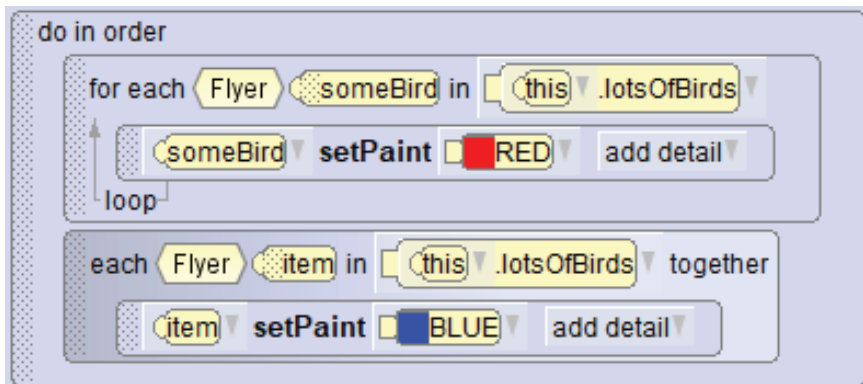


- Move their wings in this order: Phoenix, chicken, flamingo, penguin, ostrich, then SAME order again

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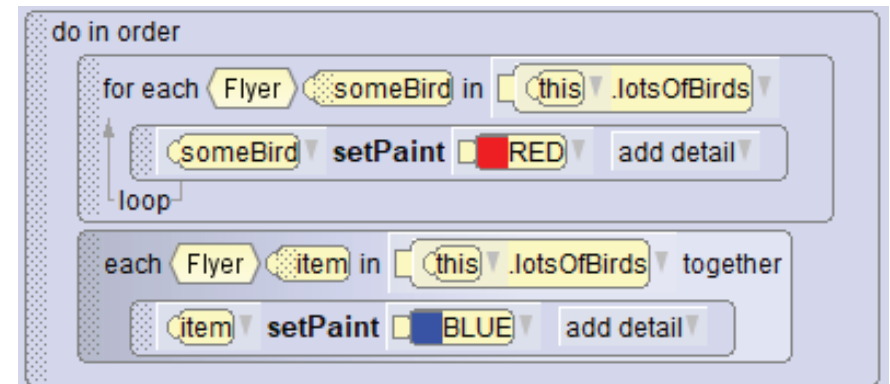
Q3. What does this code do?



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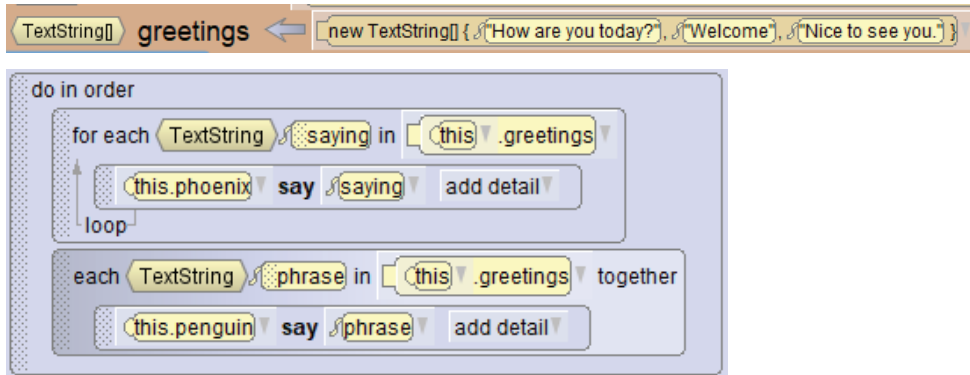


- The birds in array lotsOfBirds turn red one at a time. Then at the same time they all turn blue.

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Q4. What does this code do?



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Q4. What does this code do?

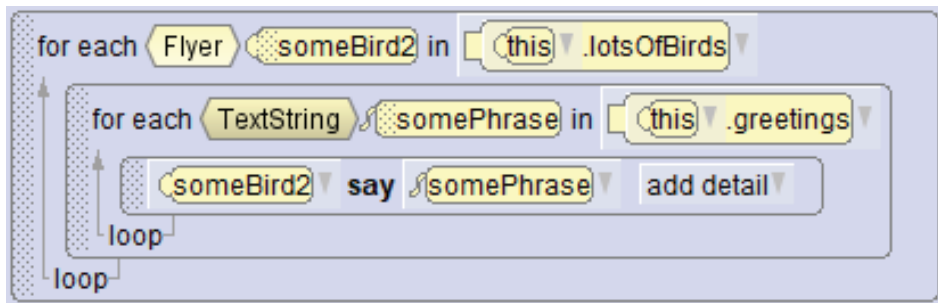
The diagram shows the same Scratch code blocks as slide 13. To the right, there are two illustrations. The top one shows a phoenix on a desert landscape with a speech bubble that says "How are you today?". The bottom one shows a penguin on a snowy landscape with a speech bubble that says "Nice to see you.".

- Phoenix says greetings one at a time
- Then Penguin says the greetings all at once

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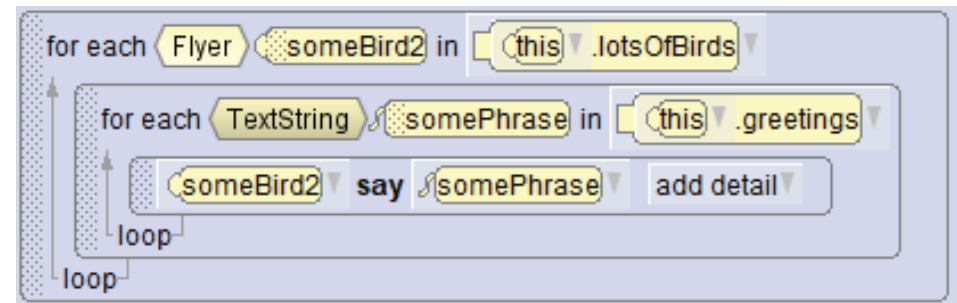
Q5. What does this code do?



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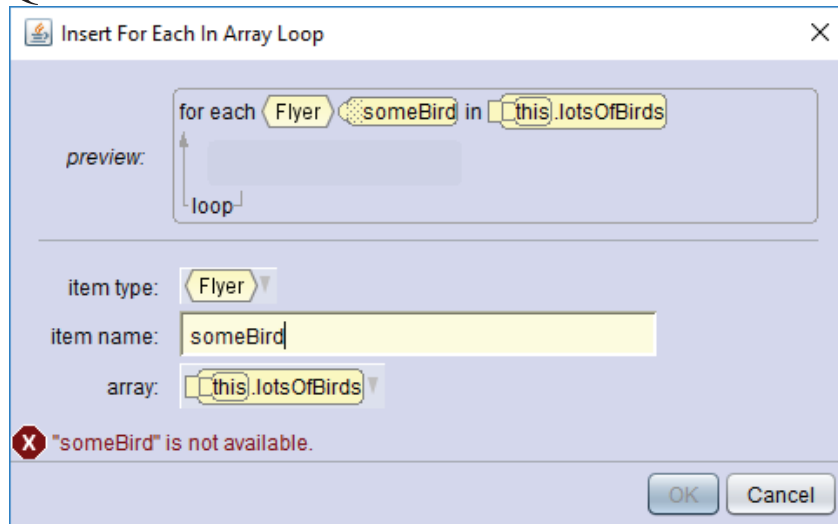
Q5. What does this code do?



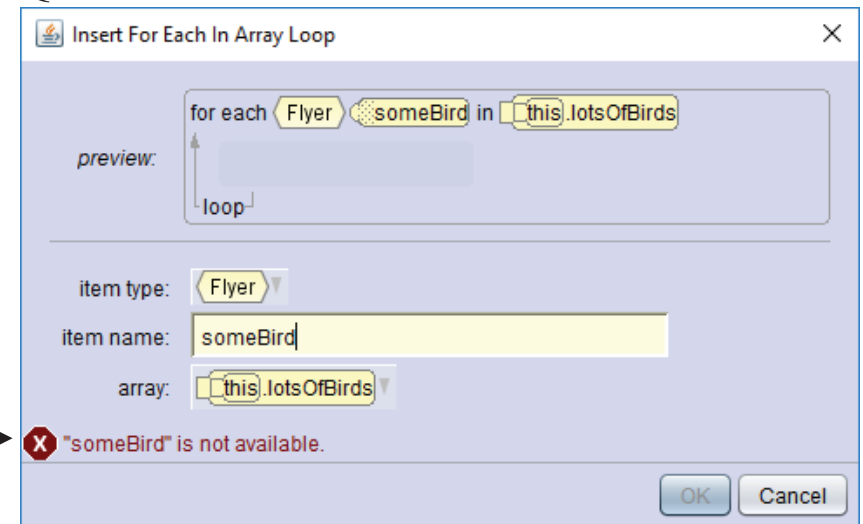
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Q6. What does this error mean?



Q6. 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!

Class Today

- Iterating through Arrays

