

# CompSci 94

## Variables and Array Indexing

October 26, 2021



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# Announcements

- Assignment 4 due Thursday Oct 28
- Videos and online quiz for next class

# Pig and Panda arrays

- Two arrays, animals are in the arrays from left to right as seen



*unmanaged*

```
▼ Pig[] pigArray ← new Pig[] { this.pig, this.pig2, this.pig3, this.pig4 }
▼ Panda[] pandaArray ← new Panda[] { this.panda, this.panda2, this.panda3, this.panda4 }
```

# Review1 - What is the code for?

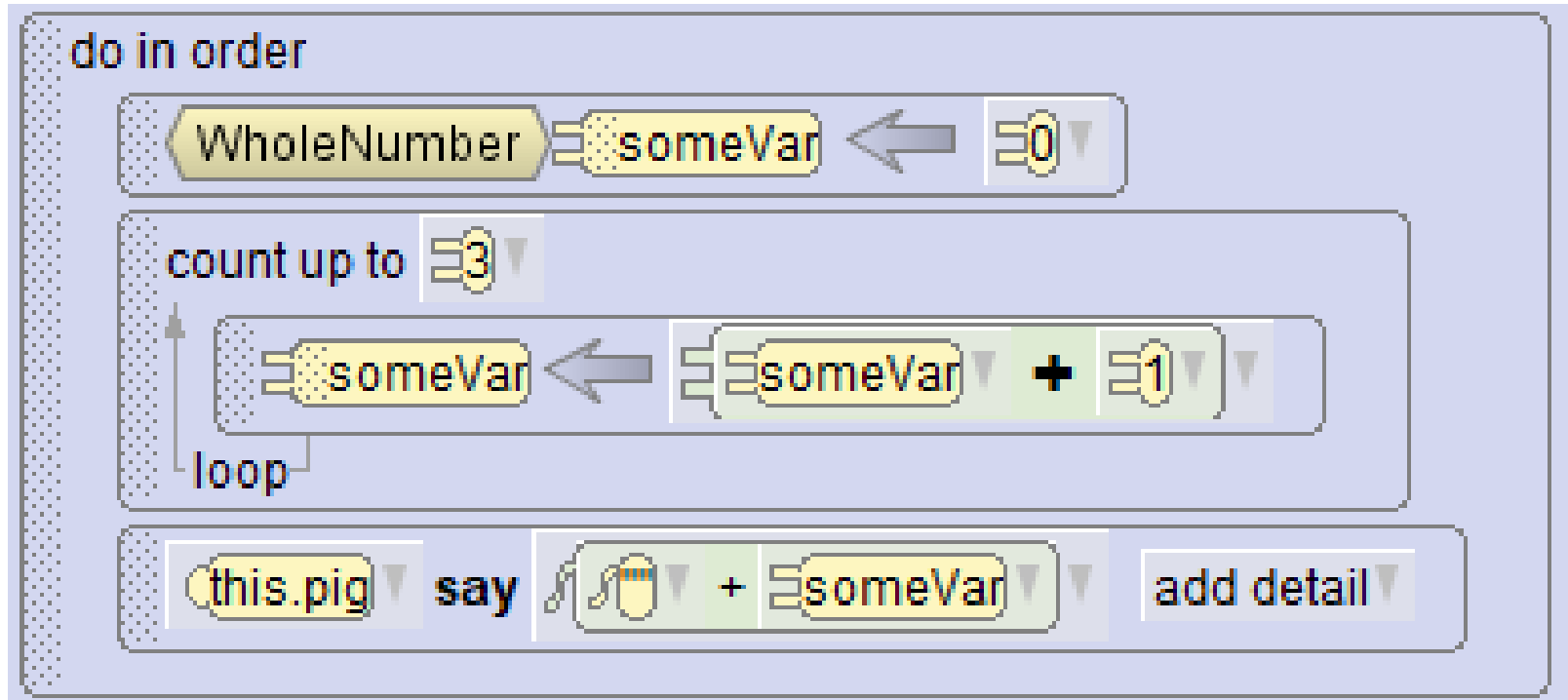
- Code for Pigs to turn right one pig at a time?

# Review2 – What is the code for?

- Code for Pandas to bow **at the same time** (turn forward a little, then turn backward)?



# Q2 - What is the output of this code?



The image shows a Scratch script with the following blocks:

- do in order** (loop container)
- WholeNumber** block with `someNum` and value `0`.
- count up to** block with value `3`.
- loop** (loop container)
- someNum** block with `someNum` and value `1`.
- +** block with value `1`.
- say** block with `this.pig4` and value `1`.

A dropdown menu is open, showing the following options:

- `1` (current value)
- `0`
- `1`
- `2`
- `3`
- Random
- Decimal to Whole Number
- Math
- Custom WholeNumber...
- array length:
  - `this.pigArray.length`
  - `this.pandaArray.length`
- TextString
- DecimalNumber
- SThing

An arrow points from the `1` dropdown menu to the `1` value in the `+` block.

Q3 -- Consider this code.  
 Why isn't somenum a  
 choice?



# Pig and Panda arrays again

- Two arrays, animals are in the arrays from left to right as seen



*unmanaged*

```
▼ Pig[] pigArray ← new Pig[] { this.pig, this.pig2, this.pig3, this.pig4 }
▼ Panda[] pandaArray ← new Panda[] { this.panda, this.panda2, this.panda3, this.panda4 }
```

# Q4 – How do I write an **array index loop** to have each pig turn right once?

- *Fill in the missing code:*

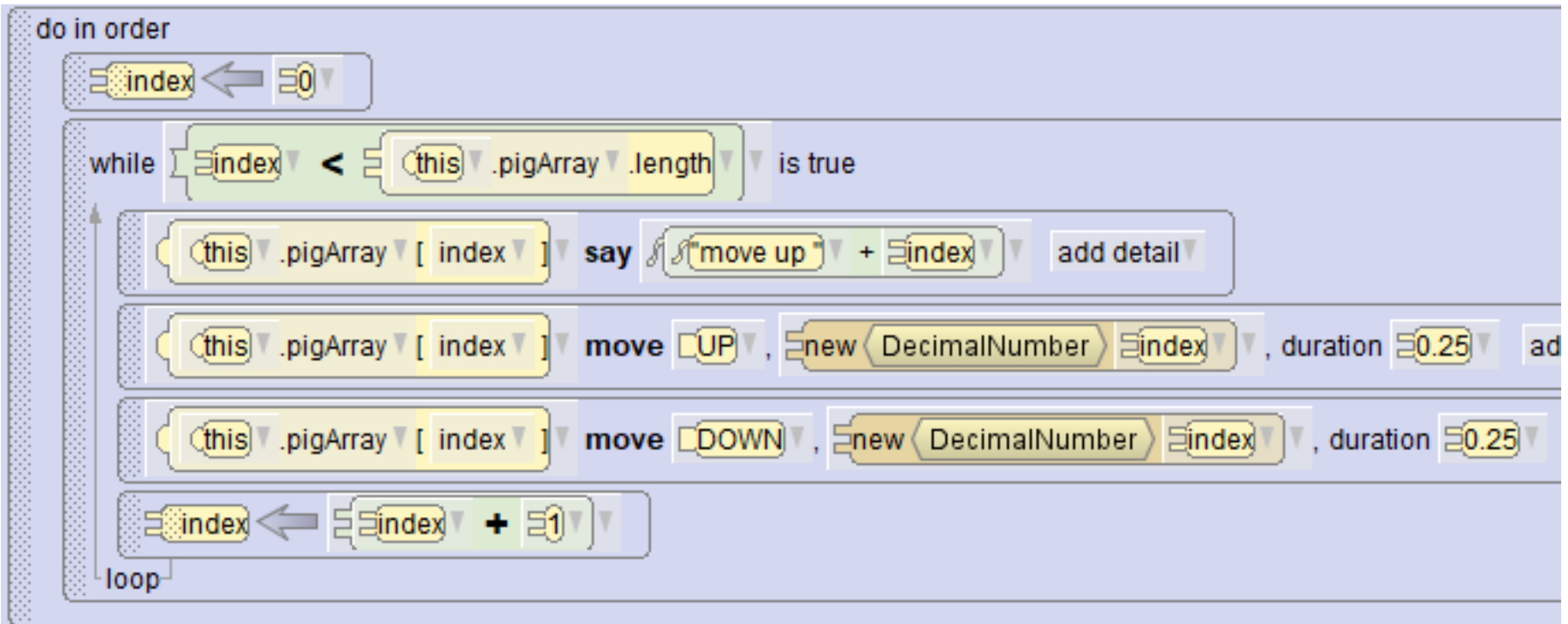
The image shows a Scratch code editor with a 'do in order' loop. The loop contains two blocks:

- A 'WholeNumber' block with 'index' in the input field and '0' in the dropdown menu. An arrow points from the 'index' field to the '0' dropdown.
- A 'count up to' block with 'this' in the dropdown menu, '.pigArray' in the input field, and '.length' in the dropdown menu.

The loop is labeled 'loop' at the bottom left corner.



# Q6 – What does this code do?



# Q7 – How do you write code to color every other panda green in array?

- Start with no color

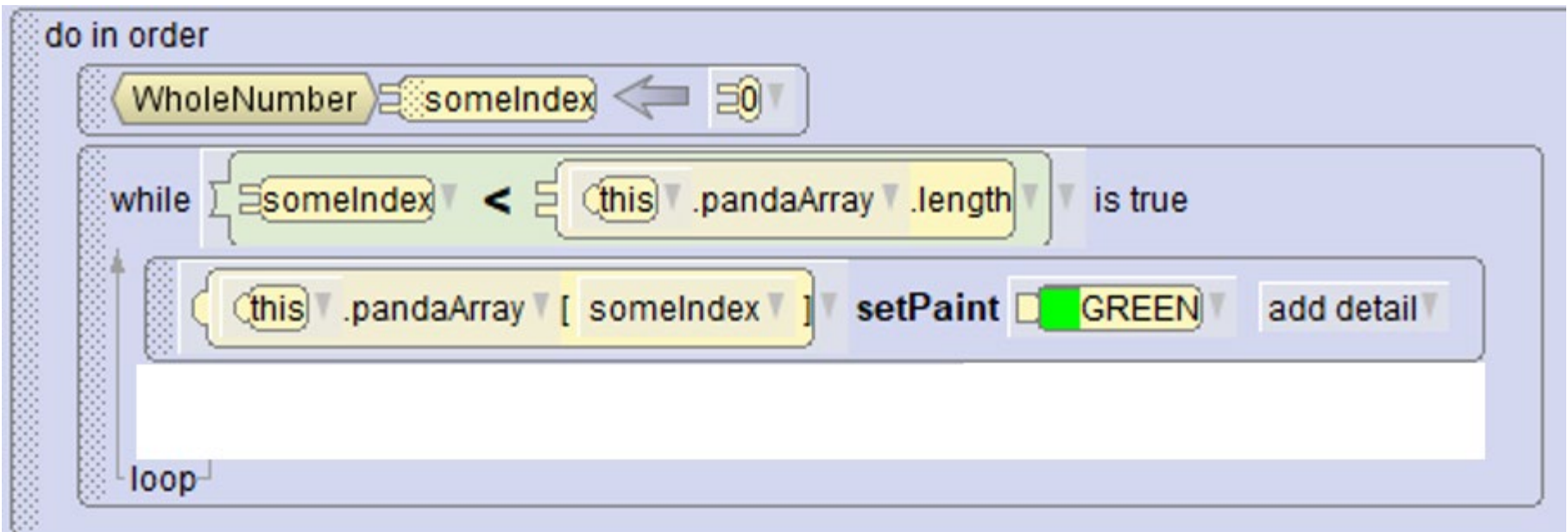


- Color every other green (1<sup>st</sup> one, 3<sup>rd</sup> one, etc.)



# Q7 – How do you write code to color every other panda green in array?

- What is the missing line of code?



# Class Today

- Array of penguins

That is every other penguin in the array

