Arrays given

• Two arrays, animals are in the arrays from left to right as seen
Q1 – What is the code for?

- Code for Pigs to turn right one pig at a time?
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- Code for Pigs to turn right one pig at a time?
  - Use a “for each in” loop
  - Name a loop variable – I chose `onePig`
Q2 – 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 code for?

• Code for Pandas to bow at the same time (turn forward a little, then turn backward)?
  – Use “each in together” loop
  – Name a loop variable – I chose onePanda
Q3 – Questions about variables

• What is the difference between a const variable and a variable?

• Which Alice construct do you use to change a variable?
Q3 – Questions about variables

• What is the difference between a const variable and a variable?
  – Const variable can only store one value when it is created
  – Variable can store a value that can change

• Which Alice construct do you use to change a variable?
  – Assign tile
Q4 - What is the output of this code?
Q4 - What is the output of this code?

• Pig says: 3
Q5 – Consider this code. Why isn’t somenum a choice?
Q5 – Consider this code. Why isn’t somenum a choice?

• It is not in scope! It is not in the do in order!
Q6 – How do I write an array index loop to have each pig turn right once?
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• Use a count loop
  – Create a variable set to 0
  – Use the variable to index in the array
  – Update the variable by 1 in the loop
Q6 – How do I write an array index loop to have each pig turn right once?

• Or could use a for each in loop
  – Create a variable set to 0
  – Use the variable to index in the array
  – Update the variable by 1 in the loop
Q6 – How do I write an array index loop to have each pig turn right once?

- OR could use a while loop
  - Create a variable set to 0
  - Use the variable to index in the array
  - Update the variable by 1 in the loop
Q7 – How do I write code to have each pig turn right once one at a time, with one of the pandas turning with each pig?
Q7 – How do I write code to have each pig turn right once one at a time, with one of the pandas turning with each pig?

- Use any type of array index loop
Q7 continued

- Notice the pigs and pandas arrays must be the same size for this to work!
Q8 – How do you write code to get each pig to move up and down, the first pig 0 units, second pig 1 unit, third pig 2 units, etc.
Q8 – How do you write code to get each pig to move up and down, the first pig 0 units, second pig 1 unit, third pig 2 units, etc.

- Use an array index loop in two places
  - One for index, one for how far to move up/down
Q9 – How do you write code to color every other panda green in array?

• Start with no color

• Color every other green
Q9 – How do you write code to color every other panda green in array?

• One way, use array index, increment by 2
Q9 – How do you write code to color every other panda green in array?

- Another way? Does this work?
Q9 – How do you write code to color every other panda green in array?

• Another way? Does this work?

NO! Does this:
Q9 – How do you write code to color every other panda green in array?

- Correct Code – update someIndex

```
do in order
WholeNumber = someIndex ← =0

while someIndex < this.pandaArray.length is true
    if someIndex INTEGER_REMAINDER 2 == 0 is true then
        // index is even
        Paint this.pandaArray[someIndex] setPaint GREEN add
    else
        drop statement here
    end if
else
    drop statement here
end while

someIndex ← someIndex + 1
```
Announcements

- Assignment 4 due Oct 31
- Videos and online quiz for next
Class Today

• Array of penguins

That is every other penguin in the array