CompSci 94
Scope and Debugging
November 27, 2018

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Class Today

• Scope for variables
• Debugging

• All classwork needs to be checked off this week by 11/29.

• Assignment 7
  – Fill out partner form by Nov. 27
    • Must fill out if working alone
    • Both partners must fill out, can only have one partner
Scope for variables

• Variables are only known within the block they are defined in.

• A block could be, for example,
  – A do in order
  – The body of an if or else
  – The body of a loop
What is the scope of count? someRandom?
What is the scope of `count`?
What is the scope of someRandom?

Can’t put someRandom here
Debugging

- What do you do when your program doesn’t work?
  - Add **say** statements until you can determine where the code does not work
    - Say “here” to see if code up to this point is executed
    - Then move it to another place
    - Say the value of a variable or property to see if it is what you think it is.
Debug with extra Says

```plaintext
do in order

WholeNumber = count ← 0

for each Pig onePig in this.pigArray

  this.pig say in loop add detail

  WholeNumber = someRandom ← nextRandomIntegerFromAUpToAndIncludingB 1, 3

  this.pig say Turn this many times: + someRandom add detail

  this.pig turn RIGHT, new DecimalNumber someRandom add detail

  count ← count + someRandom

loop

this.pig say Total number of turns was + count add detail

this.pig say Last random turn was + 0 add detail
```
How to say last random

Must declare someRandom BEFORE for loop so it is known After for loop.