CompSci 94
Undetermined Repetition with While loop
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Looping – exact number of times

• Count loop

• How many steps to get to the panda?
  – 3, 6, 8?
Repetition

- Sometimes don’t know exactly how many times a set of instructions are repeated.
- Stopping is based on a condition.
- Example:
  - Game of Chess, how many moves until win
  - Stop: when markers are in check mate position

- Indefinite Repetition
  - Where number of repetitions not known in advance
  - Use **while** statement
While statement

- While some condition is true
  - execute instructions

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General “Rule of Thumb”

• As a general rule, a While loop should be written so the loop will eventually end
  – Requires statements inside the loop change the conditions of the world such that condition for While eventually becomes false

• If While loop never ends
  – Infinite while loop
Compare – What is difference?
What happens when run?

- First loop, falcon moves down until partially in the ground.
- Second loop, nothing happens since the condition is never true. The pig is not above ground.
What happens, when does the loop stop?

- They move towards each other repeatedly until their distance is less than 1.0.
What happens, when does the loop stop? (numbers different)
What happens when this runs?

• This is an infinite loop! The bunny is never red when the condition is tested. So the condition is always true!
What code could I use to stop this loop?
Announcements

• Qz12 and videos for next time
Class Today

• Catching dinner