CompSci 94
Classwork: Random Numbers/IF
February 7, 2019

Prof. Susan Rodger
1) Setting up the scene

• Add in any ground, I used sand.
• Drag in these objects as in the picture
  – Biped: hare, pig, panda, tortoise, bunny
Overview of Story

• The pig, tortoise and hare all resize and say how tall they are.
• The panda randomly jumps up and down twice.
• One by one the panda visits each friend:
  – They both turn and face each other, the panda compares their distance, moves over to the friend and they compare height and width.
• All the characters turn and face the camera.
• At the same time they all do a random jump.

Use the steps that follow to build this program
2) Randomly Resize animals

• In myFirstMethod put in a **do in order**
• For the pig
  – Generate a random number between 0.25 and 2.0
  – Resize the pig with this number
  – Have the pig say how tall it is
• For the hare:
  – Generate a random number between 0.25 and 0.75
  – Resize the hare with this number
  – Have the hare say how tall it is
2) Randomly Resize (cont)

• For the tortoise:
  – Generate a random number between 1.0 and 3.0
  – Resize the tortoise with this number
  – Have the tortoise say how tall it is

• Play and test out your world
  – The three animals should all resize
Animals resized example
3) Write the biped randomJump procedure

- This procedure should not have any parameters
- RandomJump should have the biped randomly jump up a random amount between 0.25 and 3.0, and back down the same amount (Use a constant variable!)
- The duration of the jump should be a random amount between 0.5 and 1.5
Add code in myFirstMethod

• Have the panda jump randomly twice

• Run your world more than once to see if the panda jumps different amounts and different speeds.
4) Write the panda visitAndCompare procedure

• This procedure has one parameter, of type Biped named friend

• Have the panda and friend turn and face each other at the same time.
• Panda should say the exact distance how far it is from the friend
• (more on next slide)
4) visitAndCompare procedure (cont)

- If panda is less than 3 units from friend:
  - Say “I’m less than 3 units from you”
  - Move to the friend stopping about 0.5 units from it
- If panda is 3 or more units from friend:
  - Say “I’m 3 or more units from you”
  - Move to the friend stopping about 2 units from it
- Next the animal that is taller (between panda and friend) should say “I’m taller”
- Next the animal that is wider (between panda and friend) should say “I’m wider”
Add code in MyFirstMethod

- Have the panda visit and compare stats with the bunny (call visitAndCompare)
- Then visit with the hare, then with the pig and then with the tortoise.
Comparing

I'm taller
5) Finish up in myFirstMethod

- At the same time have all five animals turnToFace the camera
- Then at the same time have all five animals do a RandomJump

- Play your world. They should all jump different amounts and different lengths.
All jumping