Overview of Story (not complete)

- The pig, tortoise and hare all resize randomly and say how tall they are.
- The panda randomly jumps up and down twice.
- The hare randomly jumps up and down twice.
- The pig and tortoise face each other and the tortoise tells the pig a random amount to turn
  – This happens again with the bunny telling the panda to turn, and the pig telling the hare to turn.
- All the characters turn and face the camera.
- At the same time they all do two random jumps.

Use the steps that follow to build this program!
1) Setting up the scene

- Add in any ground, I used sand. (use a light color with a good contrast.)
- Drag in these objects as in the picture
  - Biped: hare, pig, panda, tortoise, bunny
That is it for the setup!

- Now follow the steps to write the code for this story.

- For this classwork, we will continue to add code to myFirstMethod, slowing building the story
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
  – See example, the number is different each time you run
2) Randomly Resize (cont)

• 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

• 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 and say the amount
Animals resized example
3) Write the **biped** `randomJump` procedure

- This procedure has **NO 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 0.25 and 1.5 (use another constant variable!)
Test RandomJump Proc

• To test RandomJump, call it twice on any Biped, at the beginning of myFirstMethod so you can focus on it. Does it work? Are the jumps different in speed and height?

• Once it is working delete this testing call.
4) Continue the story, Add more code in myFirstMethod after your other code

• Have the **panda** jump randomly **twice**
• Then have the **hare** jump randomly **twice**
• Run your world more than once to see if the panda and hare jump different amounts and different speeds.
5) Write the **Biped randomTurn** procedure

- This procedure has **one parameter**, of type Biped named **friend**

```
declare procedure RandomTurn with parameter: Biped friend
```

- Have the object (called this) and friend turn and face each other at the same time.
- The object (this) should say “How far do you want me to turn?”
- (more on next slide)
5) randomTurn procedure (cont)

• A random number between 0.25 and 3.0 should be generated.

• The friend should then say “Turn” (the random number) “times”.
  – (If the random number was 2.1, then the friend would say “Turn 2.1 times”)

• Then the object (this) turns that random amount (you can pick the direction to turn, right or left)
Test TurnRandom

- Add testing code at the beginning of myFirstMethod
- Have the panda call TurnRandom with the pig as the friend. Does it work?
- Run it more than once to test it!
- Once it works, REMOVE this testing code.
6) Continue the story, Add code in MyFirstMethod at the bottom

• Have the pig randomTurn with the tortoise.
  – This means to pass tortoise as the friend
• Have the panda randomTurn with the bunny
• Have the hare randomTurn with the pig

• See next page for example with pig and tortoise
7) Finish the story 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

• Then again, at the same time have all five animals do another RandomJump

• Play your world. They should all jump different amounts and different lengths both times.
All jumping