CompSci 94
Classwork: Writing Functions
February 13, 2018

Prof. Susan Rodger
1) Setting up the scene

- Add in any ground cover, I picked desert
- Drag in these five objects placed as they look:
  - Quadruped: Dalmatian, cow
  - Biped: Thor
  - Flyer: Flamingo
  - Prop: EndTable
2) Write the **Scene function** `furthestFromTable`

- This function has two parameter objects of type `SJointedModel` and returns the object (also of type `SJointedModel`) that is furthest from the `endTable`
3) Test your function in myFirstMethod

• Have the object that is furthest from the table say “I’m furthest from the table” (you do this with just one statement that uses your furthestFromTable function, you do not need an if statement here!)

• Have the object that is furthest from the table move towards the table 1 meter (this is also one statement only and uses your furthestFromTable function)

• Put both of these statements in a Count 4 loop. What happens?
4) Teach the dog a fancy jump

• Write a \textbf{Dalmatian jump procedure} (not a function) (see picture next slide)
• The dog should move up
• As the dog moves forward his front legs, tail and back legs should turn like he is stretching and then back to their normal position.
• The dog should move down the same amount
• Be sure to have parameters for how high and how far he goes
Jumping over

• Note legs stretched out and tail too!
5) Test the Jump procedure

- In myFirstMethod, test the jump procedure to have the dog jump over all three of the other creatures
- For now, just guess how high and how far he has to jump
6) Write the **Scene** function

`tallerHeightOfThree`

- This function has **three** parameters of type `SJointedModel` and returns the **height** (a decimal number) of the tallest of the three
7) Test your tallerHeightOfThree in myFirstMethod

• In myFirstMethod where the dog jumps over the three, now you know how high to jump. Call the tallerHeightOfThree method.

• After jumping, have the dog turn around, have the flamingo resize bigger, and have the dog jump over them again, calling tallerHeightOfThree to figure out how high to jump
Continue testing jump

• Now have the dog turn again, the cow resize to the biggest and the dog jump over them again

• After the dog has jumped over them three times, the code to test the furthestFromTable that you put in earlier should execute
8) Save the Dalmatian as a class

- Save the Dalmatian as a class (.a3c file) and then put it in a new world with different ground and three objects and have it jump over one thing with its jump procedure