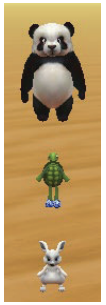
# CompSci 94
# Review: Sample Exam Questions
# November 11, 2021



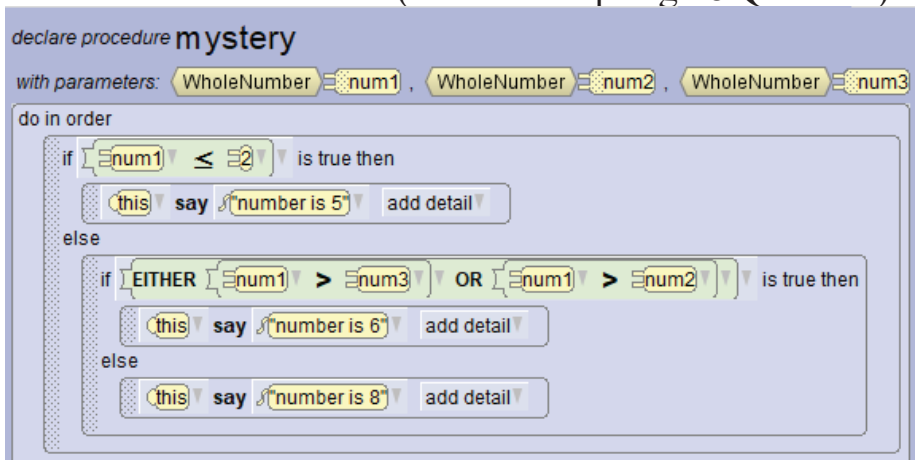
Prof. Susan Rodger



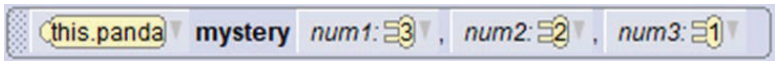
## Today is all about practicing writing code

- Write the code on paper, like you will do on the exam

# Problem 1a Procedure (Rewritten Spring 18 Quest 11)

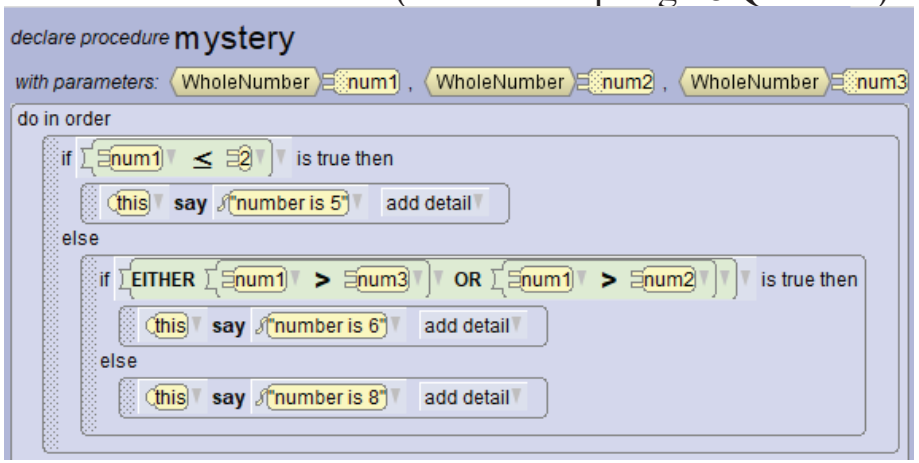



What happens when this code runs?





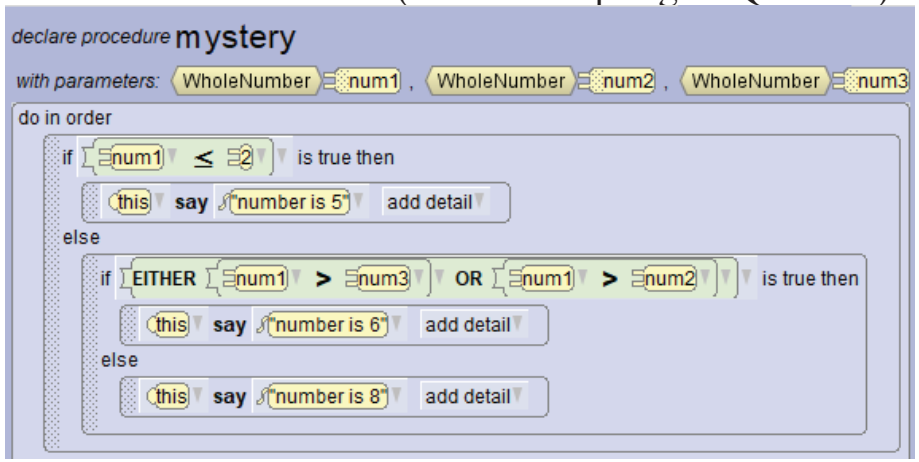

# Problem 1b Procedure (Rewritten Spring 18 Quest 11)



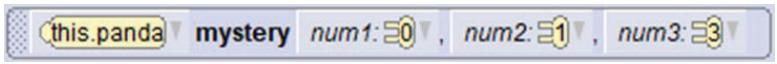

What happens when this code runs?




# Problem 1c Procedure (Rewritten Spring 18 Quest 11)

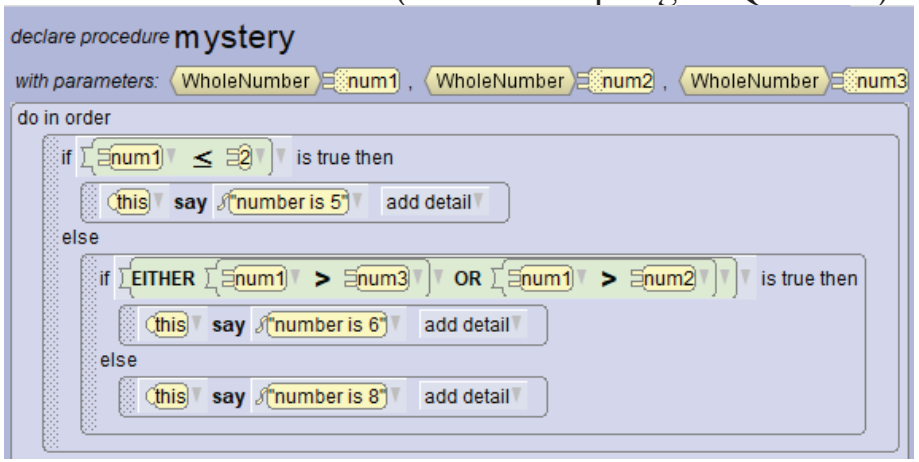



What happens when this code runs?

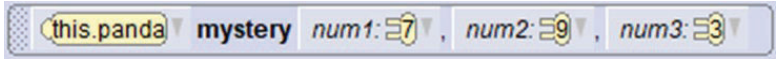




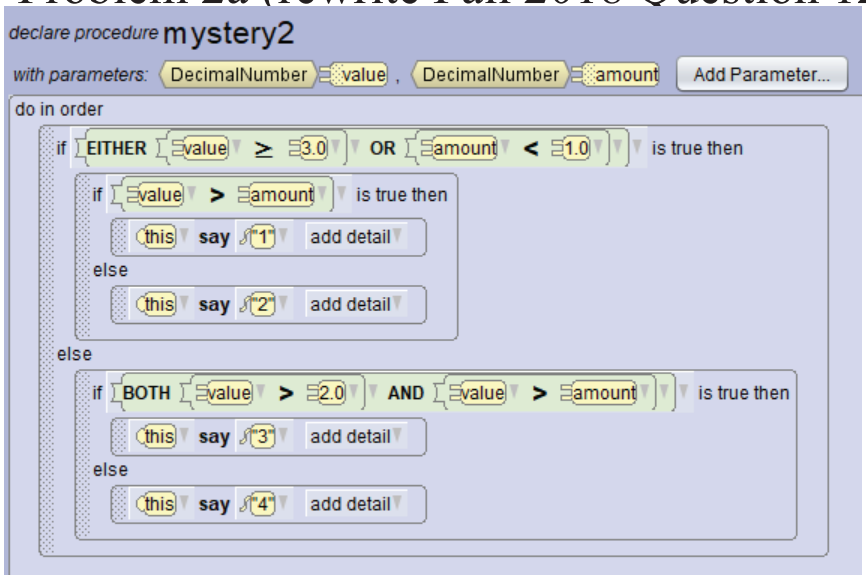

# Problem 1d Procedure (Rewritten Spring 18 Quest 11)




What happens when this code runs?



# Problem 2a (rewrite Fall 2018 Question 12)




What happens? 


Panda says:



# Problem 2b (rewrite Fall 2018 Question 12)


What happens? 


Panda says:



# Problem 2c (rewrite Fall 2018 Question 12)


What happens? 

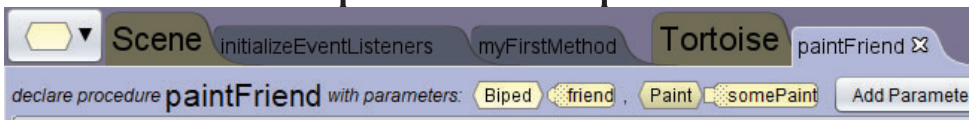

Panda says:

# Problem 3a:
# Write **Tortoise** Procedure **paintFriend**

- This procedure has **two parameters**
  - One parameter of type **Biped** named **friend**
  - One parameter of type **Paint** named **somePaint**
    The tortoise and friend turn to face each other. Then the tortoise moves stopping about 0.5 units in front of the friend. Then if the tortoise is taller than the friend, the friend is painted red. Otherwise the friend is painted the color of somePaint.



# Write the procedure paintFriend






# 3B) Calling tortoise paintFriend procedure

- Give the call for when the tortoise and pig are to turn and face each other, the tortoise moves over to about half a unit in front of the pig, and then if the tortoise is taller than the pig, then the pig is painted red, otherwise the pig is painted purple.



# 3C) Calling tortoise paintFriend procedure

- Give the call for when the tortoise and bunny are to turn and face each other, the tortoise moves over to about a half a unit in front of the bunny, and then if the tortoise is taller than the bunny, then the bunny is painted red, otherwise the bunny is painted blue.

# Problem 4 (Spring 2018 Exam 1 Question 14)

- Assume there are three objects in an Alice world, a panda, a bunny and a tortoise, and they are floating in the air, one on top of another. Complete the following panda function called `creatureAbove` that has two STurnable parameters, one named `friend1`, and one named `friend2`. This function returns the STurnable object that is highest in the air (panda or friend1 or friend2).
- Here are two possible scenarios. On the left the panda is above tortoise, who is above bunny. On the right the tortoise is above bunny who is above panda. There are other possibilities for the order of the three of them.



# Write the function creatureAbove

# Problem 8 (Exam 2 Spring 2018)

- Consider an Alice world with one eagle and an array of penguins named penguins. The penguins in the array have three different heights. The penguins are either small (around 0.40 in height), medium (around .65 in height) or large (around 1.10 in height).

- Write the Scene function NumberInHeightRange that has two parameters. The first one is a DecimalNumber named minRange, and the second one is a DecimalNumber named maxRange. This function should return the number of penguins whose height is in the range from minRange to maxRange inclusive.



# Write function