CompSci 94
Classwork: Review
October 2, 2018

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Classwork review

• This classwork will give you practice with writing functions, procedures and object markers.
• Think about types. See the FULL classwork notes for extra hints.
• This work is for review, not for credit.
1) Setting up the scene

• Add in any ground cover
• Drag in these objects so they are standing in a line all facing front
  – Biped: yeti
  – Flyer: Penguin, Seagull, Phoenix
  – Quadruped: from myClasses: Your Cat who knows how to jump
• See next slide on where to place them
Placement of objects
In a line all facing front
• L to R: phoenix, seagull, cat, penguin, yeti
Check side view!
Move the penquin up 3 units

• Make sure you can still see the penguin, you may need to move the camera back.
• Use a one shot to do this.
2) Add in object markers so you can easily move the Yeti to saved positions

- Go to scene setup
- Select Yeti (object markers are for Yeti)
- Add 3 Object Markers

![Diagram showing object markers](image-url)
Spread out the Yeti object markers

- Put two of them spread out behind the creatures
- Put the third one by the yeti
3) Write a **Flyer** procedure called `flapWings`

- Have both wings **turn** at the same time and then both turn at the same time back to where they were, just one flap of the wings.
- This procedure does not need any parameters
- Test out your procedure on the Phoenix and the Seagull
4) Write a procedure called flyAround

• This procedure will be only for the phoenix and the seagull, we will call them flyers, to use. What type of procedure should it be?

• This procedure should have one parameter, named skyObject, which represents the object that it flies around. You will only use the penguin as an argument. What type should the parameter be?
4) Write a procedure called *flyAround (cont)*

- This procedure should move the flyer up 3 meters, then have it circle the skyObject twice while flapping its wings **8 times** total (**4 times** in each loop) (be sure to call *flapWings*), and then move back down to where it started. Set the timing so it looks good!

- Test it out!
4) **Hints** for procedure called `flyAround`  

- **What type of procedure should it be?** Since it is suppose to work for the phoenix and the seagull, it needs to be a **Flyer** procedure.

- **What type for the parameter `skyObject`, which represents the object to fly around?** Since the parameter will only be the penguin, the parameter type should be **Penguin**. Other types higher in the hierarchy would also work such as **Flyer** or **SJointedModel**.
5) Add code to myFirstMethod

• Here is the first part of myFirstMethod
  – Have the seagull fly around the penguin.
  – Then have the phoenix fly around the penguin

• Be sure to use the procedure you wrote!
6) Write the **Cat function** named `distanceToJumpOver2`

- The cat needs to know **how far** to jump if it wants to jump over **any** of the creatures in the world.
- The function should return the distance of the object that is further away. **What type should the return value be?**
- Add in two object parameters so that the Cat can jump over any of the creatures we have added to the world. **What type should they be?**
6) Hints for the Cat function named distanceToJumpOver2

- The cat needs to know how far to jump if it wants to jump over two objects.
- The function should return the distance of the object that is further away. The return value should be of type Decimal number.
- Add in two object parameters so that the Cat can jump over any of the creatures we have added to the world. They should be of type SJointedModel.
7) Add the next part in myFirstMethod

- Have the cat turn to face the seagull and then jump over both the seagull and the phoenix at the same time. Be sure to use the function you just wrote to calculate how far to jump and add a little bit to that to go past them.

- For how high to jump, just have the cat jump its height.
Finish the story in myFirstMethod

• Move the YETI to each of the two object markers behind, and then back to where the YETI was.
• Then have the cat turn and jump over the phoenix and the Yeti.
• Play your world
• When your program works, then make the penguin permanently invisible!
• Now play your world!