CompSci 94
Classwork: Camera Control
September 12, 2024

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Classwork today

- We will setup a scene for today using the 2D camera scenes

- We will write one new procedure and use the tortoise from last time with its kick and write the story

- Then we will add in some camera markers and add different camera views to the story

Brief outline of Story

- The tortoise kicks the skate into the hole. Then the tortoise kicks the gnome over and then kicks it out of the scene. The tortoise then jumps over the babyYeti who charges it, and then the babyYeti falls into the hole. The tortoise jumps over the Yeti, who falls into the hole. The tortoise faces front and says "The end".

- **Note:** Follow the instructions and the more detailed story that follow

- **Note2**: Set up Camera views last!

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1) Setting up the project and scene

- First load your Alice project from last time, and then select **File, Save As**, and name it **Classwork5Sept12**.

- It should already have the **desert** ground cover

- **Delete all the code in your myFirstMethod**.

- Then Delete all the objects **except the tortoise**!

- Drag in these objects so they are in positions similar to the pictures on the next 4 pages
  - Biped: tortoise (already have), yetiBaby, yeti
  - Props: gopherHole, gardenGnome, iceskate

From the 2D FrontView
Don't move the camera (black object)!
YetiBaby is at Yetis feet
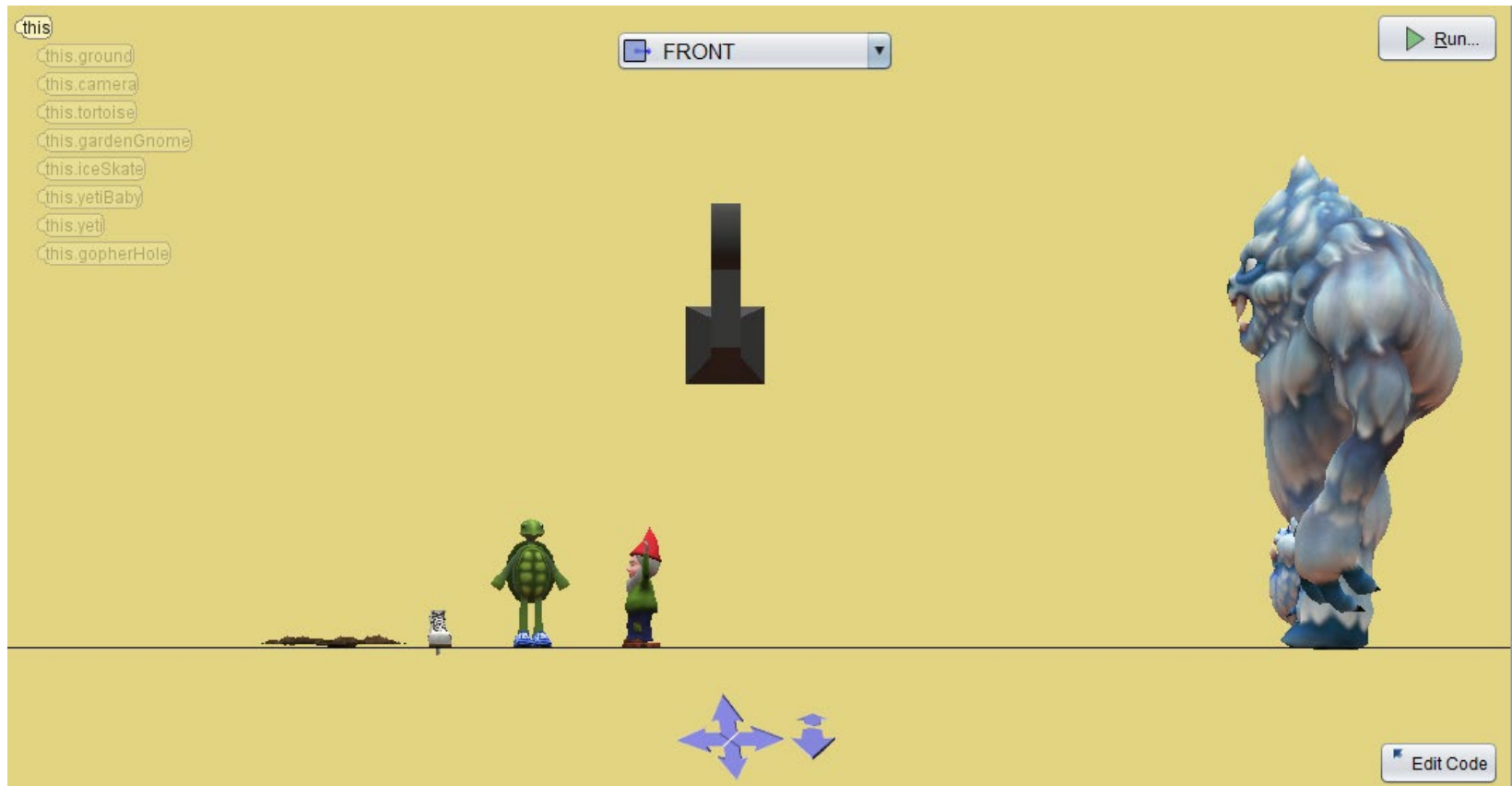
From the front view – note yeti and yetiBaby just offscreen

Here is the side view

Make sure they are all lined up
## Also make sure yeti and yeti baby are facing gopherHole

Here is the Top view
You can't see the yetiBaby

2) You should already have the **tortoise kick** procedure

- It has three parameters
  - **itemKicked** of type prop – the item to kick
  - **direction** of type moveDirection – the direction for the itemKicked object to move
  - **howFar** of type DecimalNumber – the distance for the item kicked to move
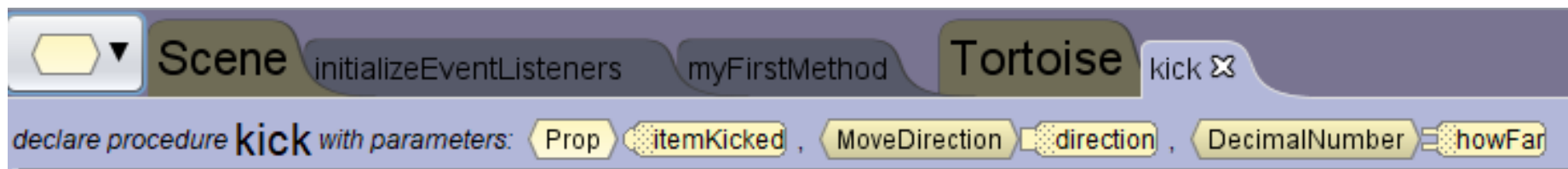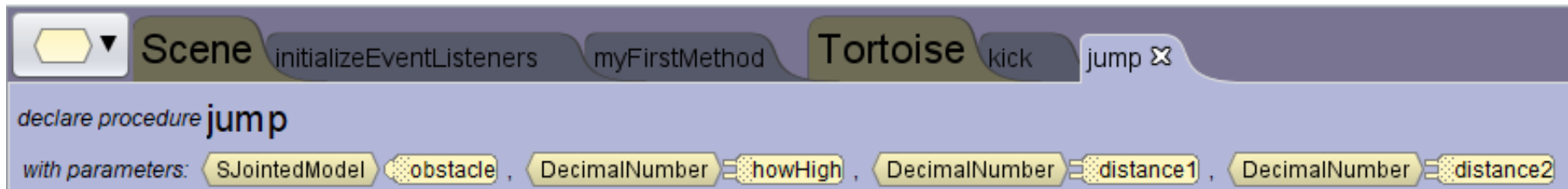
2) Tortoise **kick** (continued)

- The tortoise should kick its right leg once (at the knee – use getRightKnee) in three motions shown here from left to right

- Note with the last motion the object moves at the same time.

- You should already have this procedure

3) Write the **tortoise jump** procedure

- It has four parameters
  - **obstacle** of type **SJointedModel** – the object the tortoise will jumpover
  - **howHigh** of type DecimalNumber – how high to move up
  - **distance1** of type DecimalNumber – how far for the obstacle to move the first time
  - **distance2** of type DecimalNumber – how far for the obstacle to move the second time

Scene | initializeEventListeners | myFirstMethod | Tortoise | kick | jump ⊠

declare procedure **jump**

with parameters: SJointedModel obstacle , DecimalNumber howHigh , DecimalNumber distance1 , DecimalNumber distance2

3) Tortoise **jump** (continued)

- Here is how the jump works
  - There are just two movements
  - At the same time, the tortoise goes straight up and the obstacle moves towards the tortoise the first distance, likely stopping directly below the tortoise
  - At the same time, the tortoise goes back down and the obstacle moves the second distance
  - See pictures on the next page

3) Tortoise **jump** (continued)

- From left to right here is the jump

- Be sure to test the jump out in myFirstMethod with the gardenGnome
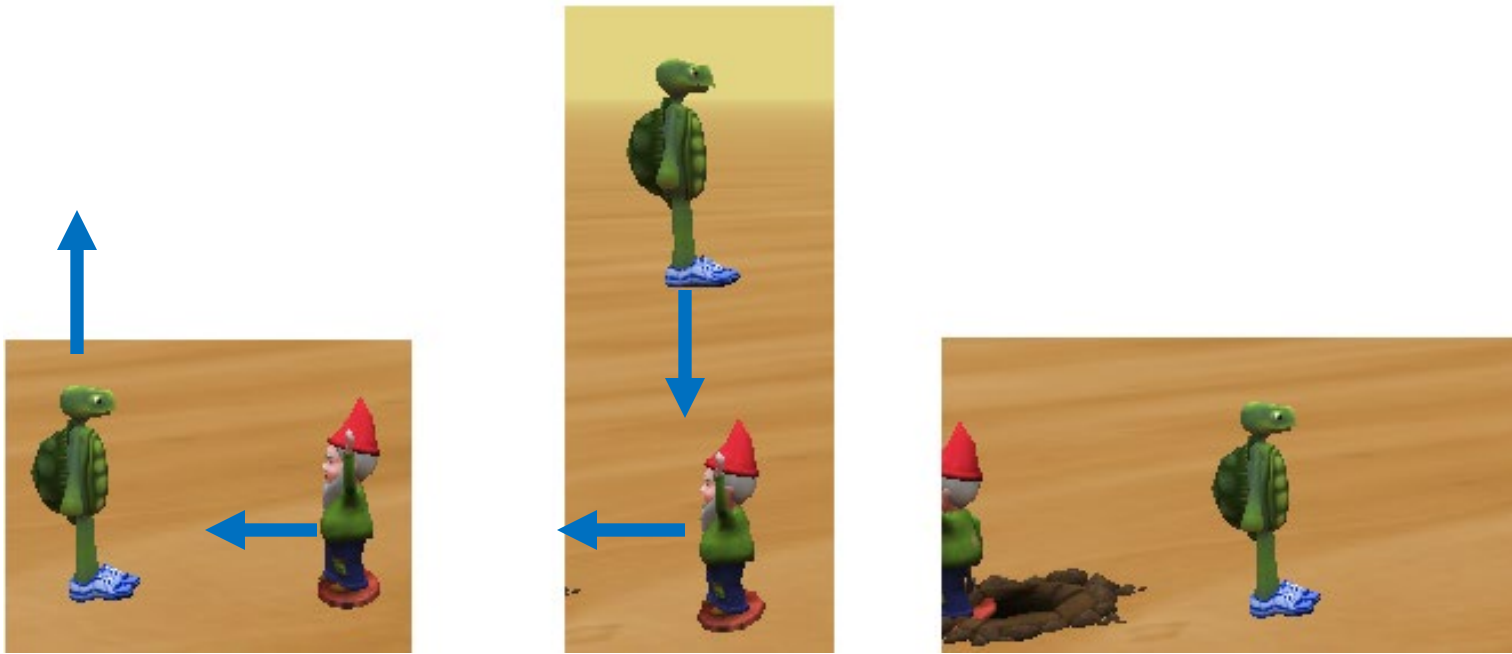
4) Put the story together

- Delete any testing code you have in myFirstMethod

- Put in a do in order tile

- Here is the story with more detail:
  - The tortoise turns to face the skate, moves over to it and kicks it, it moves to the hole and then drops down into the hole.

  - The tortoise turns to face the gardenGnome, moves over to it and kicks it. The gardenGnome moves and then it falls over backward. The tortoise moves up to it again, kicks it and this time it moves off screen.

- (continued)

4) Put the story together (continued)

- The baby yeti approaches. The tortoise jumps over the babyYeti as it passes by the tortoise.

- The babyYeti reaches the hole and drops underground.

- Next the yeti approaches. The tortoise says something like "Whoa, another"

- The tortoise jumps over the Yeti as it passes by. The yeti drops through the hole.

- The tortoise faces front and says "The end"

5) Add four camera markers

- It is important to add camera markers last, or your setup scene may freeze and you cannot click on objects and move them.

- Drop a camera marker before moving the camera for the cameraStartView

- Then add three more camera markers described on the next few pages.
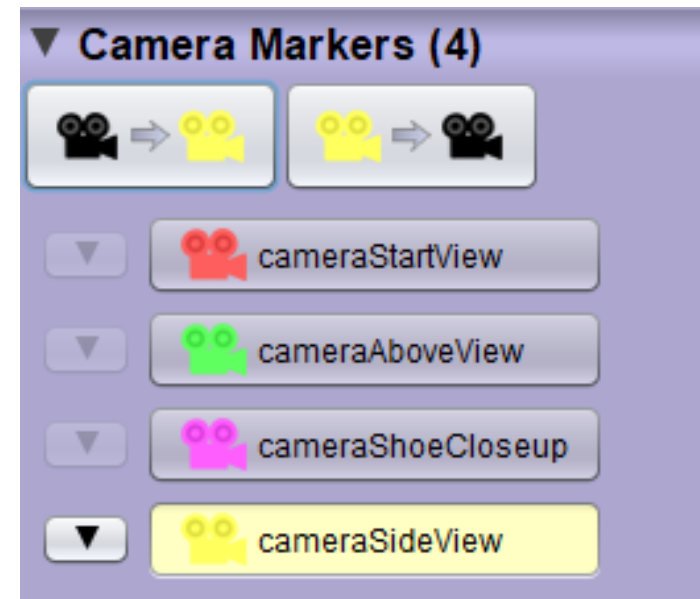
Tips on Camera Markers

- Once you put in camera markers, you shouldn't be moving objects around. Camera markers should go in last!

- If you do need to move an object after Camera markers are added, you may have to use a one shot to do so.

- We will see another way to do camera markers later.

Add a close up view of the skate – cameraShoeCloseup

- Be sure to see the hole and also the tortoise's legs
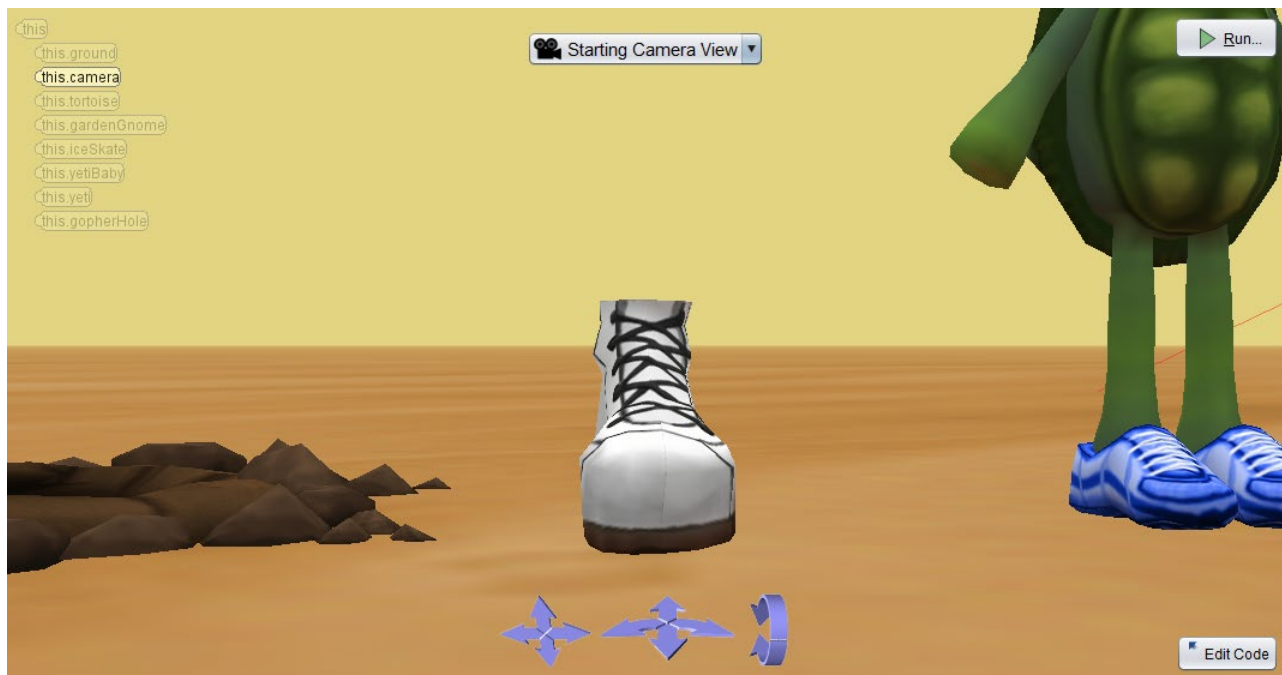
Add a top view – cameraAboveView

- Try moving the camera to the tortoise, upright it, then move the camera up and turn it to look down. Try this with one shots.

- You can see the shoe cameraMarker

Add the side view camera marker

- Put the camera back to the cameraStartView and start from there with oneShots

6) Add camera views to the story.

- Start in the cameraStartView

- Change to the cameraShoeCloseup when the tortoise faces the shoe

- Change back to the cameraStartView after the shoe disappears

- Change to the cameraAboveView after the gardenGnome falls over

- Change to the cameraStartView after the gardenGnome goes off screen.

- (continued)

6) Add camera views (cont.).

- Change to the cameraSideView after the yetiBaby falls through the hole

- Change to the cameraStartView after the yeti falls through the hole