

CompSci 94

Classwork: Parameters

September 7, 2021



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Classwork today

- We will write two procedures with parameters, and then write a story where we will use these procedures, calling them with different arguments.

Brief outline of Story

- The tortoise kicks the skull away. The tortoise kicks the bowlingPin away. The tortoise goes over to the desertTortoise, but the desertTortoise faces it and says “Don’t kick me”. The desertTortoise leaves and the tortoise kicks the emerald away. Then the tortoise turns to the front and says “I got them all!”
- **Note:** Follow the instructions and the more detailed story that follows

1) Setting up the scene

- Choose the **desert** ground cover
- Drag in these objects so they are in positions similar to the pictures on the next 2 pages
 - Biped: tortoise
 - Quadrupeds: desertTortoise
 - Props: bowlingPin, skull, emerald

Drag in all the objects on top of each other



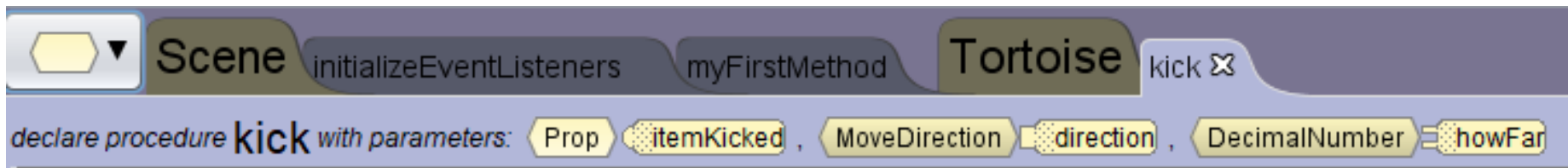
Then spread them out using one shots so you know how far apart they are from the tortoise

- Note the tortoise is 2 units back and directly behind the skull. The skull, bowlingPin and dessertTortoise are about in a line with the emerald under the desertTortoise
- You may want to adjust the camera just a little bit.



2) Write 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



```
declare procedure kick with parameters: Prop itemKicked , MoveDirection direction , DecimalNumber howFar
```

2) Tortoise **kick** (continued)

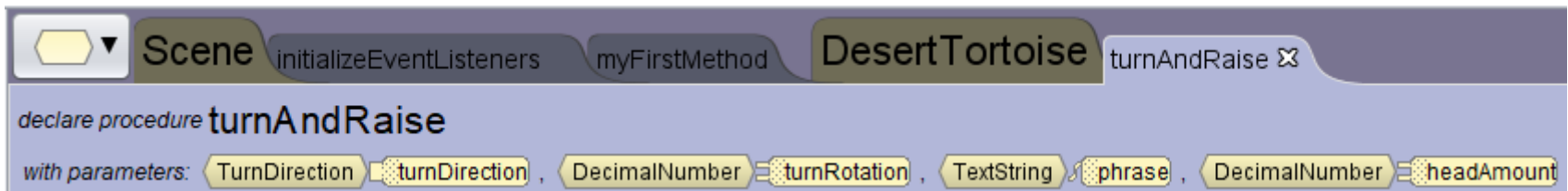
- The tortoise should kick its right leg once (at the knee – use `getRightKnee`) in three motions shown here from left to right.



- Note with the last motion the object moves **at the same time** the foot is moving back.
- The total time for the kick should be 1 sec!
- **Test out kick** in `myFirstMethod` – Turn the tortoise so you can see the kick, Add in a prop item and in `myFirstMethod` have the tortoise kick the item. Then delete the prop item.

3) Write the **DesertTortoise turnAndRaise** procedure

- It has four parameters
 - **turnDirection** of type **TurnDirection** – the direction the desertTortoise will turn
 - **turnRotation** of type **DecimalNumber** – how far desertTortoise will turn
 - **phrase** of type **TextString** – something the desertTortoise will say
 - **headAmount** of type **DecimalNumber** – how far the desertTortoise neck will turn



```
declare procedure turnAndRaise
with parameters: TurnDirection turnDirection, DecimalNumber turnRotation, TextString phrase, DecimalNumber headAmount
```

3) DesertTortoise turnAndRaise (continued)

- Here is how the **turnAndRaise** procedure works
 - The desertTortoise turns in the direction `turnDirection` and how far to turn is `turnRotation`
 - Then the DesertTortoise's neck turns `headAmount` quickly, in half a second (*which direction? This is NOT turnDirection*)
 - The tortoise says the phrase passed in
 - Then the DesertTortoise's neck turns `headAmount` quickly in the opposite direction, in half a second

3) DesertTortoise **turnAndRaise** (continued)

- From left to right here is the turnAndRaise
- The tortoise was turned 0.25 and raised its neck 0.1. Notice neck is down in last frame.
- Be sure to test it



4) Put the story together

- Delete any testing code you have in myFirstMethod
- Put in a do in order tile
- Think about when to call your procedures!
- Here is the story with more detail:
 - The tortoise moves up, kicks the skull, and says “Got one!”
 - The tortoise turns to face the bowlingPin, moves over to it and kicks it, and says “Got two!”
 - The tortoise moves over to the desertTortoise.
- (continued)

4) Put the story together (continued)

- The desertTortoise turns around to face the tortoise, raises its neck and says “Don’t kick me” and lowers its neck.
- The desertTortoise turns back to where it was, raises its neck and says “I’m out of here!” and lowers its neck.
- The desertTortoise moves off screen quickly
- The tortoise moves over to the emerald, kicks it.
- The tortoise faces front and says “Got them all!”