Q1. Function vs Procedure

• What is the difference between a function and a procedure?
  – Procedure is something to do – turn, move, dance
  – Function is a calculated value – a number, an object, a direction
  – A function by itself is not very useful, a function has to be used in some way based on the type of value it calculates

Q2. Write a function called tallerHeight to compute the height of the tallest of two objects.

• What type of function should it be? Where do you create it?

• What is the return type?

• Need two parameters, what are their types?
Q2. Write a function called tallerHeight to compute the height of the tallest of two objects

- What type of function should it be? Where do you create it?
  - Scene function
    - Like to be able to use it for any two objects
- What is the return type?
  - DecimalNumber
- Need two parameters, what are their types?
  - SJointedModel
    - Then works for any creatures

Can write your own functions

Function for Scene  OR  Function for character

Use scene function if it involves multiple objects

Create Scene function tallerHeight

- Inputs: two objects
- Output (return value): the height of the taller object
- Return type: decimalNumber
Q3 What line of code do we have to put in every function?

• Return statement!
  – Must return the same type as the specified return value.

Q4 What is the code for tallerHeight?
Q4 What is the code for tallerHeight?

declare (DecimalNumber) function tallerHeight
with parameters (SJointedModel animal1, SJointedModel animal2)
do in order
if `(animal1.getHeight > animal2.getHeight)` is true then
    return `(animal1.getHeight)`
else
    return `(animal2.getHeight)`
end if

Q5 Given a bear and a flamingo, how does one use the function tallerHeight?

• Have panda say what the taller height is of the bear and flamingo.

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Q6. Write a function called tallerObject to return the object who is taller of two objects.

- What type of function should it be? Where do you create it?
- What is the return type?
- Need two parameters, what are their types?

Q7. What is the code for tallerObject?

```javascript
declare (SJointedModel) function tallerObject
with parameters (SJointedModel) creature1, (SJointedModel) creature2
```
Q7 What is the code for tallerObject?

```
function tallerObject(
    creature1: SJointedModel,
    creature2: SJointedModel
) {
    do in order
    if (creature1.height > creature2.height) {
        return creature1;
    } else {
        return creature2;
    }
}
```

Q8 How do you get the taller of the bear and flamingo to say they are taller?

Q9 How do you write code for?

- The taller of the bear and flamingo to turn around once
- The bear to double in size (so it is taller)
- The taller of the bear and flamingo to turn around once.
Q9 How do you write code for?

Use tallerObject function in place of an object.

Q9 When code runs…

1. Flamingo turns
2. Bear gets bigger
3. Bear turns

Q10 What does this code do?
Q10 What does this code do?

• The taller animal (flamingo) is stored in variable creature.
• Flamingo turns around, then bear gets bigger.
• Then Flamingo turns around again!

• In the last line if we want the taller of the two to turn around, we MUST call the function again to recalculate the taller one, since the bear changed its height

Announcements

• RQ and videos for Thursday
• Assignment 4 is out and due Oct 31.

Class Today

• Jumping cat calculating how high and how far to jump, and other things…