Class Today

• Continue practice writing procedures and functions
• Properties and variables, object markers, logic operators
• Exam 1 next Thursday
  – Old tests are on Resources tab
  – Old tests are in Alice 2, but many questions relevant – Think about how you would do the same question in Alice 3

Setup for Lecture today

• Put in four objects:
  – Biped: Panda, SnowWoman, SnowWoman2, MarchHare

Properties

• A 3D object has its own:
  – Procedures – things it can do, like move, turn
  – Functions – values it can calculate like distance to, getHeight
  – Properties – data on its current state
    • Paint – what color it is
    • Opacity – all on are faded?
    • Width, height and depth
    • Vehicle
Change Properties

- What happens when this code executes?

Variable – store a value

- Variables can be used in your code when you need to store a value and then use it later.
- You must specify the type of the variable
- The variable tile is at the bottom of the editor pane

Using a variable

- Suppose we want the Panda to jump up 1 in height, then 2, then 3, then 4.
- We create a variable of type number that we can add to so it can change from 1 to 2 to 3 to 4.

Adding a new property to Panda

- Suppose we want to add a new property to the Panda, so it knows the maximum height it has jumped.
- Name it howHighJumped
- It’s type would be a decimal number.
When you add a property you get a function and a procedure for free to go with it

- The procedure allows you to change the properties value
- The function allows you to get its current value

Everytime the Panda jumps you need to check to see if it has jumped higher than before

- code

After Panda has done all its jumping, it can say the highest it jumped

- Build a string to say “I jumped this high “ and get the value of how high

Logic Operators

- A and B – true if both are true
- A or B – true if one or both are true
- Not A – True if A was false
Example

- Uses **And** – both conditions must be true for the whole thing to be true

![Example Code Snippet]

Add in object markers

- An object marker is a placeholder for where you want an object to move to.
- To create them, in Setup Scene, must select object first
- Then add two objectMarkers

![Add Object Markers]

This lecture covered

- Properties of an object and how to change them
- A number variable
- Logic – and, or, not
- Object markers

![Code to use object markers]