CompSci 4  
Chap 9 Sec 1  
March 5, 2009

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Announcements

• Read Chapter 9, Sec 2 for next time
• Assignment 6 due Tuesday, March 24
• Today
  – Chapter 9, Section 1 – Lists
  – Show Halloween card….

Collections

• In some animations, several objects must perform the same actions
  – Example: marching band marching
• It is convenient to collect all objects into a group (collection)
  – Major benefit – write code for all the objects in the group (rather than separate code for each object)

List

• A list - one way to organize objects into a collection
  – You may use lists to organize
    • Shopping list
    • Todo list
• In programming, a list is a collection of objects or information. We call an organizing structure a data structure.
Creating Lists

- In Alice, a list can be a list of numbers, or a list of objects, or a list of colors, etc.
- Let’s create a list of skeletons

Programming with a List

- Can “iterate through a list”
  - Do something to each item in the list
    - In order (use “For all in order”)
    - All together (use “For all together”)

Example/Demo: Iteration in Order

For each skeleton in order
  skeleton says “Boo”
For each skeleton in order
  skeleton turns its head around
Applying a Part of an object

• Drag in skeleton turn
• Select part
• Drag over part
• Drag in item
• Type in part

List Questions

• What are differences between For all in order and For all together?
• When would you want to use each of them?
• What can you put in a list?
• When can you refer to a part of an object in a list?
• What type of method can you not put in a For all in order or For all together?
Classwork today

- Create a list of players
- Make them do several things.