CompSci 101
Introduction to Computer Science

October 21, 2014

Prof. Rodger
Announcements

• Reading for next time on calendar page
  – RQ 11

• Assignment 5 due Oct 30 (new date)

• APT 5 is due today
  – APT 6 out today

• Finish lecture notes from last time
Alice programming language
Nested Loop
Fair Ride – Octopus
Wac-A-Mole

World.score Obj clicked

No variables

For all World.moles, one Obj item_from_moles at a time

If clicked == item_from_moles

Do together
playerScore move up .2 meters duration = 0.25 seconds
item_from_moles play sound World.pop2 (0:00.313) more...

Else
Do Nothing

World's details

properties methods function

Obj moles = mole, mole2, mole3, mole4, mole5, mole6, mole7, mole8, mole9, mole10, mole11, mole12
Tuples

• Like a list, but cannot change them
  – Define them with “,”
    (5, 7, 8) or 5, 7, 8

• Use most list operations on them
  – they are a type of list
  – But immutable

• Examples
Example: Generate groups of students randomly

- Sort a list of students (partially shown) into groups?

<table>
<thead>
<tr>
<th>Abelson</th>
<th>Adam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akim</td>
<td>Meghan</td>
</tr>
<tr>
<td>Allen</td>
<td>Mooki</td>
</tr>
<tr>
<td>Arnold</td>
<td>Paige</td>
</tr>
<tr>
<td>Beamon</td>
<td>Deja</td>
</tr>
<tr>
<td>Bellis</td>
<td>Nathan</td>
</tr>
<tr>
<td>Bosonetto</td>
<td>Paul</td>
</tr>
<tr>
<td>Bradford</td>
<td>Will</td>
</tr>
<tr>
<td>Britto</td>
<td>Christian</td>
</tr>
<tr>
<td>Chen</td>
<td>Connie</td>
</tr>
<tr>
<td>Chen</td>
<td>Yifei</td>
</tr>
<tr>
<td>Chung</td>
<td>Howard</td>
</tr>
<tr>
<td>Cohen</td>
<td>Brittany</td>
</tr>
<tr>
<td>Cotton</td>
<td>Keegan</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Group 1:
- Mekjian
- John
- Akim
- Meghan
- Arnold
- Paige

Group 2:
- Lin
- Hoerauf
- Kroliek
- Lizzie
- Aaron

Group 3:
- Mercola
- Britto
- Schack
- Christian
- Sam

Group 4:
Example: Generate groups of students randomly

• Sort a list of students into random groups?
  – Read list of students from a file (one per line)
  – Put names into a list
  – Randomly shuffle the names
  – Print them out in groups of three
Discuss and write code for `processFile(file)`


- Read in lines from a file
- One student name per line
- Return a list of the student names
Discuss and write code for randomize(students)

- www.bit.ly/101fall14-1021-02
- Given a list of student names
- Return a list of students in random order
- random.randint(0,4) – returns integer
Consider this attempt at Randomize
www.bit.ly/101fall14-1021-03
Print in groups of 3
printGroups(students)

• www.bit.ly/101fall14-1021-04
• Given a list of student names
• Print “Group N” followed by three student names, one name per line, for each group N

Group 1:
name1
name2
name3