



CompSci 101

Introduction to Computer Science

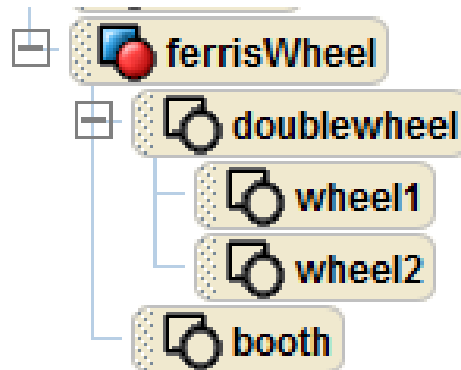
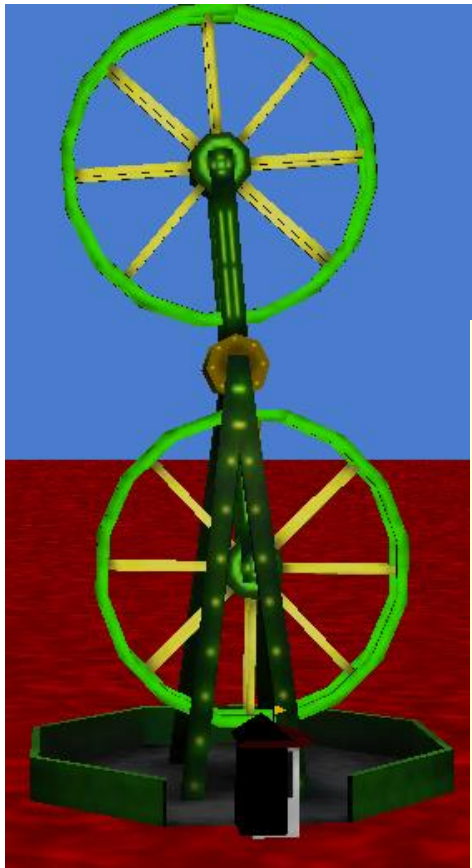
October 21, 2014

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



Loop 10 times times

show complicated version

ferrisWheel.doublewheel.wheel2 roll left 0.1 revolutions

Wait 2 seconds

ferrisWheel.doublewheel roll left 0.5 revolutions more...

Loop 10 times times

show complicated version

ferrisWheel.doublewheel.wheel1 roll left 0.1 revolutions

Wait 2 seconds

Nested Loop

☐ Loop 10 times ▾ times

☐ Do together

▾ roll right ▾ 1 revolution ▾ style = abruptly ▾ duration = 2 seconds ▾

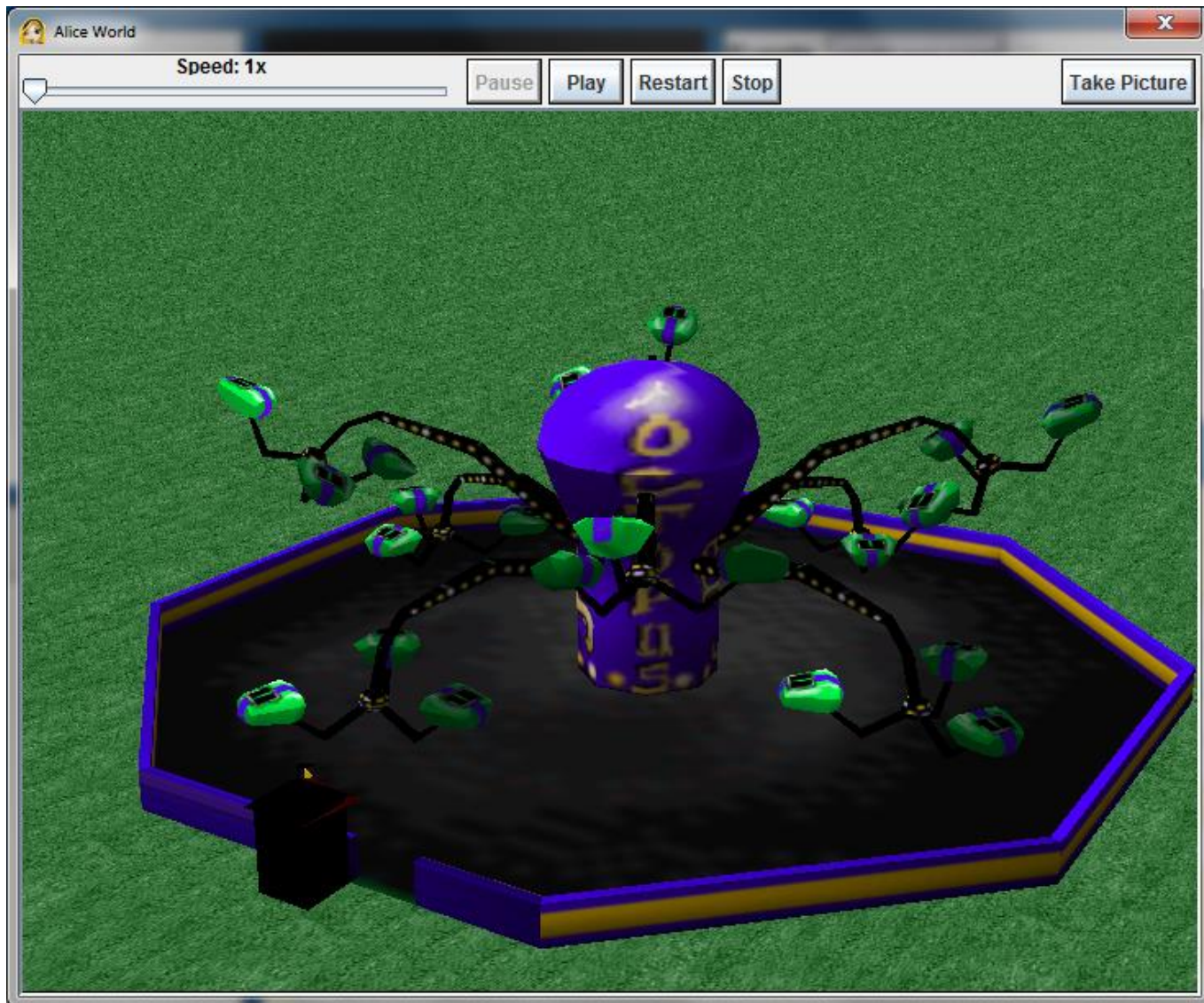
☐ Loop 2 times ▾ times

☐ Do together

▾ roll left ▾ 1 revolution ▾ style = abruptly ▾ more...

▾ roll left ▾ 1 revolution ▾ style = abruptly ▾ more...

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?

Abelson	Adam
Akim	Meghan
Allen	Mooki
Arnold	Paige
Beamon	Deja
Bellis	Nathan
Bosonetto	Paul
Bradford	Will
Britto	Christian
Chen	Connie
Chen	Yifei
Chung	Howard
Cohen	Brittany
Cotton	Keegan

Group 1:

Mekjian	John
Akim	Meghan
Arnold	Paige

Group 2:

Lin	Abigail
Hoerauf	Lizzie
Krolik	Aaron

Group 3:

Mercola	Jack
Britto	Christian
Schack	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)`

- www.bit.ly/101fall14-1021-01
- 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