



CompSci 101 Introduction to Computer Science

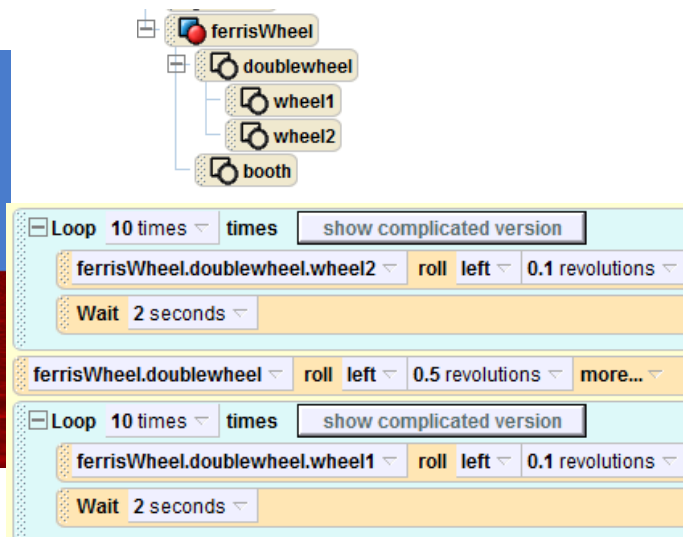
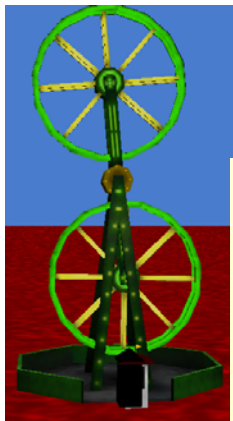
October 21, 2014

Prof. Rodger

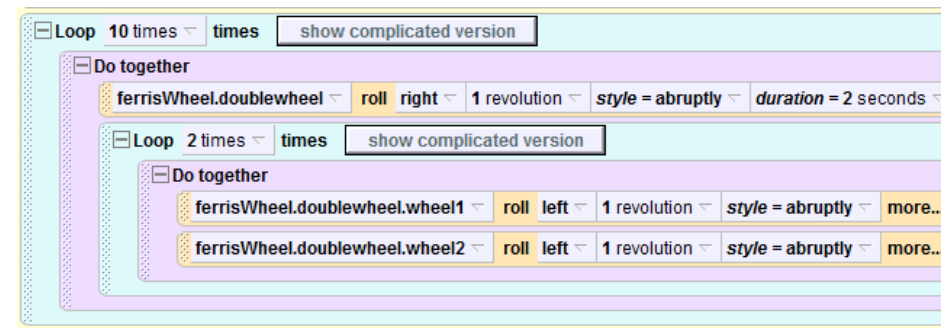
Announcements

- 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

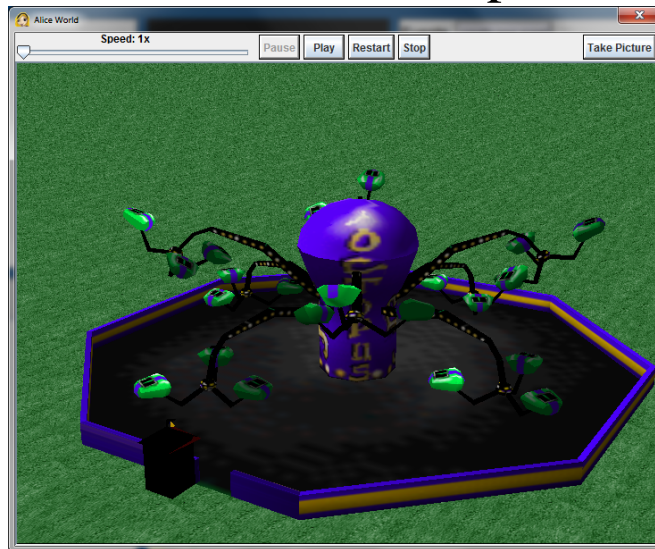
Alice programming language



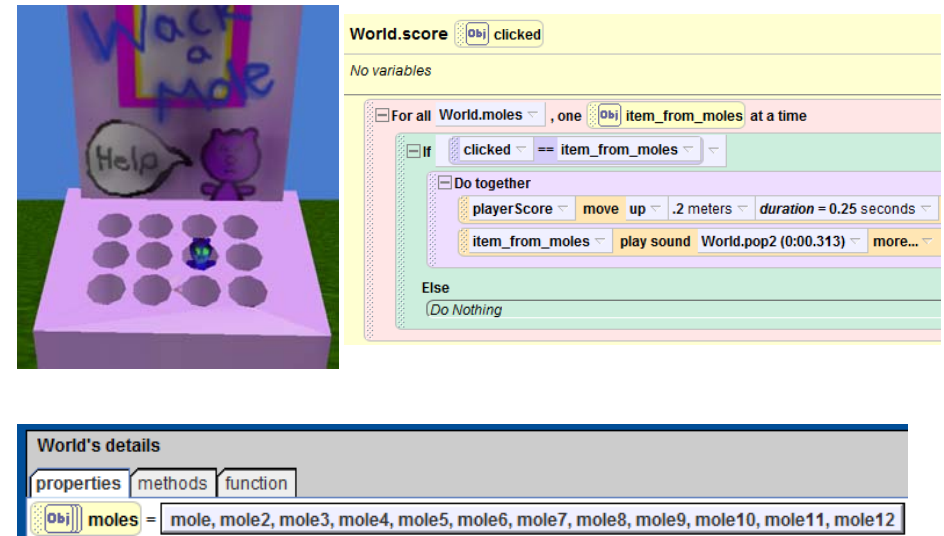
Nested Loop



Fair Ride – Octopus



Wac-A-Mole



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

```
x = (4, 6, 8)
y = 9, 5, 6
print x
print y
print x[1]
print y[1]
y[0] = 2
z = ([5,6], [7,8])
```

```
print z
z[0][1] = 12
print z
z[0].append(4)
print z
z[0].remove(5)
z[0].remove(12)
z[0].remove(4)
print z
```

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

Consider this attempt at
Randomize
www.bit.ly/101fall14-1021-03

```
def randomize2(students):  
    randomstuds = []  
    for stud in students:  
        ind = random.randint(0, len(students)-1)  
        randomstuds.append(students[ind])  
        students.pop(ind)  
    return randomstuds
```

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