CompSci 94 Undetermined Repetition with While loop October 10, 2024





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CompSci 94 Fall 2024

Announcements

- Enjoy Fall Break!
- QZ13 and videos for Thursday, Oct 17

• Assignment 4 out next time

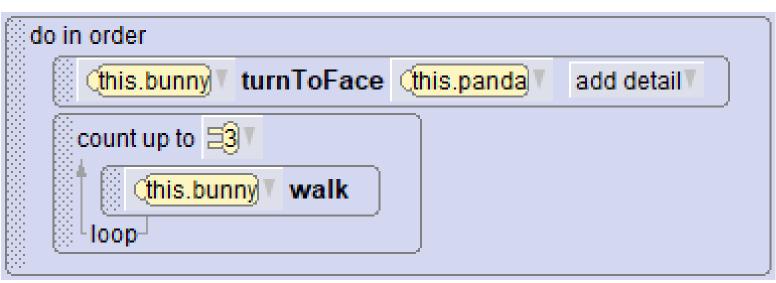
Exam 2 is October 24
Study materials put on 10/24 date

Looping – exact number of times



• Count loop

-3, 6, 8?

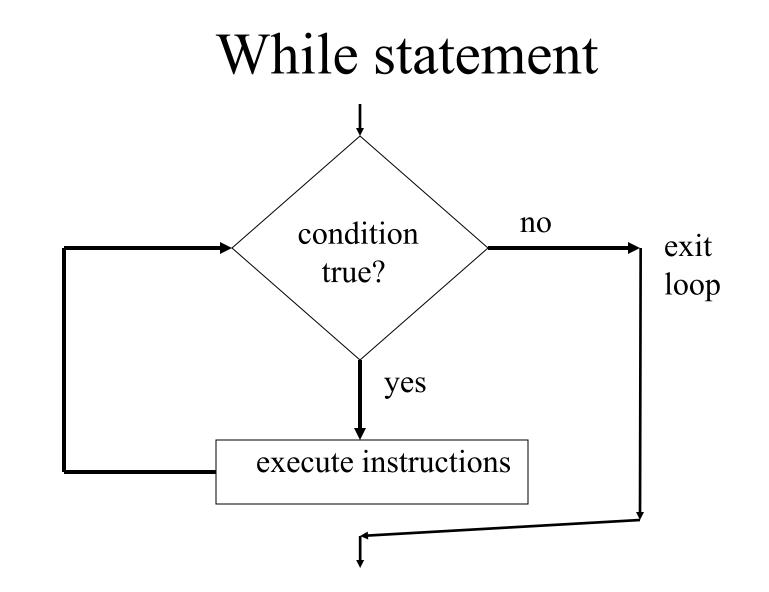


• How many steps to get to the panda?

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Repetition

- Sometimes don't know exactly how many times a set of instructions are repeated.
- Stopping is based on a condition
- Example:
 - Game of Chess, how many moves until win
 - Stop: when markers are in check mate position
- Indefinite Repetition
 - Where number of repetitions not known in advance
 - Use while statement



- While some condition is true
 - execute instructions

General "Rule of Thumb"

- As a general rule, a While loop should be written so the loop will eventually end
 - Requires statements inside the loop change the conditions of the world such that condition for While eventually becomes false
- If While loop never ends
 - Infinite while loop

Q1 Compare – What is difference?

d	o in order			
	this.bunny	turnToFace	(this.panda)	add detail 🔻
	count up to 🗐			

lo in order
(this.bunny) turnToFace (this.panda) add detail
while [[[[[[[this.bunny]]] getDistanceTo ([[this.panda]]]] - [[[[[this.panda]]] getWidth]]] > [[1.0]]] is true
this.bunny walk
[loop −

Q2. What happens when run?

while (this.falcon) is Above (this.ground) add detail) is true
this.falcon move DOWN , 20.25 add detail
∭ Lloop-l
while [this.pig v isAbove this.ground v add detail v is true
this.pig move DOWNT, 20.25 add detail
∭ [_] loop┘



Q3 What happens, when does the loop stop?



whil	e	<pre>E(this.hare) getDistanceTo (this.panda) > E1.0</pre>	
	do to	together	
		(this.hare)▼ moveToward (this.panda)▼, Ξ0.25▼ add detail▼	
		this.panda moveToward this.hare , 20.25 add detail	
0 100	op		

Q4 What happens, when does the loop stop? (numbers different)



w	hile	E this.hare getDistanceTo this.panda V > E1.0 V is true	
	d	lo together	
		this.hare Toward this.panda T, ≡3.0 T add detail	
		this.panda▼ moveToward this.hare▼, ≡3.0▼ add detail▼	
	ि oop-	 با	

Q5 What happens when this runs?

do in order	
(this.bunny) setPaint GREEN add detail	
while (this.bunny) getPaint) + CREDI is true	
this.bunny setPaint BLUE add detail	
(this.bunny) setPaint RED add detail	
(this.bunny setPaint YELLOW) add detail	
E Loop-	



Q6 What code could I use to stop this loop?

do	o in order
	//How do I stop this loop? What do I put in place of true?
	while I true is true
	this.bunny resize =1.3 add detail
	[ê ^L loop┘

Class Today

• Catching dinner

