COSC 123 Computer Creativity

Lists and Arrays

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COSC 123 - Dr. Remon Lawrence **Key Points** 1) Create and use lists and arrays as examples of data structures. 2) Use the For all together and For all in order statements with lists. Page 2





set value
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Lists For all together and in order

The For all together statement performs the operations on all objects at the same time.

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Page 7

The For all in order statement performs the operations one at a time in the order the objects are in the list.









Demonstration Exercise Arrays

Use hamster.a2w.

Tasks:

- Add two more hamsters to the array.
- ♦Make all hamsters jump up in order.
- ♦ Make the hamsters jump up in reverse order.
- ◆Make every second hamster jump.
- Make a random hamster jump. Make it so a mouse click on a hamster will whack it. Keep score.

Page 12

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Lists For all together and For all in order	r
Question: What will this code do?	
[04] dragons = dragon, dragon2, dragon3, dragon4, dragon5 create new var	riable
EFor all dragons - , every (0) item_from_dragons together	
item_from_dragons $ au$ move up $ au$ 5 meters $ au$ more $ au$	
item_from_dragons = move down = 5 meters = more_ =	
□For all dragons	
item_from_dragons $ au$ move up $ au$ 5 meters $ au$ more $ au$	
Item_from_dragons = move_down = 5 meters = more_ =	
A) Move each dragon up/down separately then move dragon up/down together.	each
B) Move each dragon up/down together then move ea up/down separately.	ch dragon
C) Move each dragon up/down together only.	
D) Move each dragon up/down separately only.	Page 13

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List Index	
Question: Given the list below at what index is "A"?	
D F G X A B C	
A) 4	
B) 5	
C) 6	
D) 7	
	Page 14

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List Insert	
Question: Given the list below what is the index 2?	result if insert Z at
D F G X A B C	
A) Z D F G X A B C	
B) D Z F G X A B C	
C) D F Z G X A B C	
D) D F G Z X A B C	
	Page 15



Exercises Lists and Arrays

Exercise #1: Soldier March

- ◆Create a group of 12 soldiers in three rows of four.
- Make them all move forward, turn left half a turn, then move forward again at the same time.

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◆Make each row of soldiers do the actions above in turn.

Exercise #2: Pick an object - Create a world with five objects.

- ◆ Allow the user to click on the objects.
- The order the objects are clicked are the order they should be put into an array.
- ◆After the objects are put in an array, print out the contents of the array.
- Bonus: Instead of printing, line the objects up in the order they were picked.



Page 18

Objectives

Key terms: data structure, list, array

Alice skills:

♦Create and use lists and arrays.

◆Use list methods and For all together and For all in order.

◆Importing and exporting objects.

Page 19

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