Data Structure and Algorithms 12/8/2014

This is foundation upon which problem solving is done.

Arrays:

* Can store many items that are similar
* Items can accessed one at a time (ie: via loops)
* Accessing an item by index
* Items can be accessed arbitrarily within the array’s indices-within bounds

Linked Lists (one of the most simplest data structures)

– how are they different from arrays

* Operations that it can perform:
* Why advantageous over arrays in certain cases:

Each item in a linked list points to the next item (arrays don’t do this.)

* Therefore, you can’t look at the item arbitrarily, you have to visit each element in order to find the one you care about
* Can store similar items (same as for arrays)
* Linked Lists do NOT have random access
* Why use Linked Lists vs Arrays :
  + If you wanted to add elements in the beginning or end, you would want to use the Linked List to easily add elements (the head and tail elements)

http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-006-introduction-to-algorithms-fall-2011/