Joshua Hesseltine
Assignment 3/Part II
Plotting time and answers

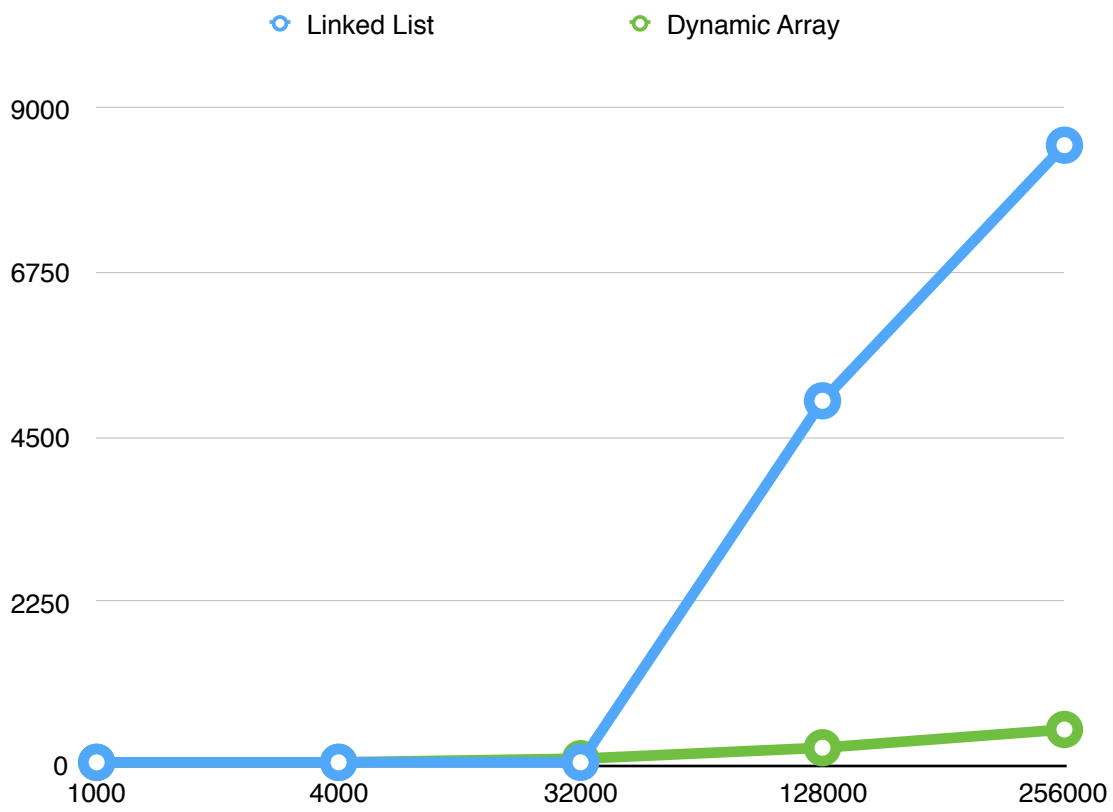
1) Which of the implementations uses more memory? Explain why.
The most memory consumption occurred using the CLL. The LL stores the value in the memory location plus, the previous value and the next value. The DA only stores one value at runtime.

2) Which of the implementations is the fastest? Explain why.
Iterating thru a linked list during runtime is O(n) while the Dynamic Array is O(1). So the Dynamic Array is the faster implementation

3) Would you expect anything to change if the loop performed remove() instead of contains()? If so, what?

At worst case the dynamic array would have to perform the re-indexing operation making it O(n). The linked list on the other hand needs to simply deallocate memory and remove the connections which would reduce time to O(1).

Difference Between CLL and a Dynamic Array			
n	Dynamic Array	LL	
1000	0	0	
2000	10	0	
4000	30	30	
8000	150	150	
16000	60	500	
32000	2440	2150	
64000	9780	8577	
128000	39150	34410	
256000	156600	226340	


Linked List
Dynamic Array
9000
6750
4500
2250
0
1000
4000
32000
128000
256000