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CS 261 - 400

Assignment 3: Problem 2

1. The linked list ultimately uses more memory that the DynamicArray does. Since a linkedList is looking for memory and is not serialized, this can results in many gaps in memory which ultimately causes more to be consumed since it is not aligned. Since a Dynamic array is serialized, it would use one specified block of memory and can better utilize that area.
2. The DynamicArray is the fastest, which is to be expected since you can have more random access to anything within the array, while a LinkedList requires going through all of the list (in the worst case) to find the value that you are looking for.
3. If you were to be performing a remove instead of contains, the linked list would perform significantly faster, since it has a near constant performance on removing. Also, since the Dynamic array is not designed to shrink, it would lock up a lot more memory once you were to remove items, while the linked list shrinks as items are removed.