

### **Dynamic Array:**

1000 = 0kb / 0ms  
2000 = 0kb / 0ms  
4000 = 0kb / 20ms  
8000 = 0kb / 100ms  
16000 = 0kb / 380ms  
32000 = 0kb / 1540ms  
64000 = 0kb / 6200ms  
128000 = 0kb / 24470ms  
256000 = 0kb / 97850ms

### **Linked List:**

1000 = 0kb / 0ms  
2000 = 0kb / 0ms  
4000 = 0kb / 0ms  
8000 = 0kb / 0ms  
16000 = 8kb / 0ms  
32000 = 508kb / 0ms  
64000 = 1508kb / 0ms  
128000 = 3508kb / 0ms  
256000 = 7508kb / 0ms

1) Which of the implementations use more memory? Explain why?

The Linked List uses more memory because it stores more information with the pointers.

2) Which of the implementations is the fastest? Explain why.

The linked List was faster because it can operate at  $O(1)$  while the Dynamic array does it at amortized  $O(1)$ .

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

If the if the loop performed **remove()** instead of **contain()** I think it would be more equal between the two structures.