Runtime Analysis

Notes:

In the test we see a time of 857 ms for the insert test vs 3 ms for the append test.

In this test I can see that it takes insert about 300 times more to go through the numbers and create the new array then it does the append test. The insert test has a more constant approach vs the linear approach of the append test.

Insert Append

extraLargeArray 857.1005 ms 3.1452 ms

largeArray 8.9254 ms 633.2 μs

mediumArray 185.4 μs 174.5 μs

smallArray 45.7 μs 151 μs

tinyArray 34.2 μs 127.9 μs

In these results I see that the append method is, for the most part, the faster one. I also see that it is a more linear method where the smaller the array gets its pretty much close to the previous time. As far as the Insert method, I can see that the speed towards the smaller arrays were actually quicker then the Append method. Although it was more inconsistence, with the spike in time when it got to the larger arrays, It’s probably the better option for those small ones.

(note I do think that the last three results are not accurate, I would imagine that my computer is not reading nanoseconds and is leaving them as microseconds.) I believe that the append method is always superior because it takes the least amount of effort.