

Name	Insert Function Runtime	Append Function Runtime
tinyArray	37.125 μ s	101.127 μ s
smallArray	47.925 μ s	111.641 μ s
mediumArray	154.436 μ s	154.961 μ s
largeArray	6.368616 ms	611.695 μ s
extraLargeArray	900.748638 ms	5.803828 ms

How Does Each Function Scale?

The insert function and append function both scale in $O(n)$, because as the array argument increases in size, each number in the array must be multiplied by two, which takes additional time.

Which of the two functions scales better? How can you tell/Extra Credit?

The append function scales much more efficiently. This is because it is using the `.push()` method, which simply adds a number to the end of the array, $O(1)$. The insert function uses the `.unshift()` function, which adds each number to the beginning of the array. When this happens, each subsequent number (already in the array) must move over a spot. As the array grows in size, this becomes a much more time-consuming task, $O(n)$.