

Array Size	doublerAppend	doublerInsert
tinyArray	101.177 μ s	55.304 μ s
smallArray	160.877 μ s	48.037 μ s
mediumArray	152.42 μ s	193.584 μ s
largeArray	548.362 μ s	6.155242 ms
extraLargeArray	4.005544 ms	744.557424 ms

Initially appending to the array is almost twice as slow but as the size of the array increases the insertion method begins to become the faster option by many times greater speed. This is due to what both functions are doing. One goes to the end of the array and adds the value at the next available index which is an $O(1)$ operation. The Insert adds the value to the first index of the array, but then has to proceed to “shift” all other values over to make room for the new one. This is $O(n)$ time and becomes much slower as the data set grows.