Timing results Insert vs Append

tinyArray

Insert: 19.5 μs

Append: 55.8 μs

smallArray

Insert: 26.3 μs

Append: 62.7 μs

mediumArray

Insert: 98.3 μs

Append: 88.2 μs

largeArray

Insert: 5.0222 ms

Append: 323 μs

extraLargeArray

Insert: 540.2194 ms

Append: 2.0689 ms

1 How does each function scale?

If your array is a smaller array then insert is the faster function. If you have a larger array then append is the faster function.

2 Which function scales better?

Append is the function that scales better and gives you a better runtime vs insert as you move to larger and larger arrays.

3 Reasoning?

When you Append you are adding an item to the end of the array vs Insert which goes and looks into the array and replaces at a specific index. So for a smaller array replacing at a specific index can be quicker as shown with the timing but as the array grows in size adding to the end or appending is quicker.