

function	extra-large	large	medium	small	tiny
Insert	706.493792 ms	5.713375 ms	134.792 $\mu$ s	21.458 $\mu$ s	20.292 $\mu$ s
append	1.91125 ms	391.209 $\mu$ s	156.167 $\mu$ s	51.291 $\mu$ s	46.834 $\mu$ s

As the array size gets smaller, the runtime gets shorter. The append function utilizes the `.push()` method which will run faster if the array is large or extra-large. For medium to tiny arrays, the insert function will always run faster. However, the append function has a faster overall total runtime and is the best option.

Research:

The default Complexity of `push()` is  $O(1)$  and `unshift()` is  $O(n)$ . Because `unshift()` has to increment all the elements that already present in the Array. But, `push()` has to insert an element at the end of the array, so none of the Array elements' index has to change...

The push method is simply just adding an element at the end of the array. So no matter the array size, it'll have a constant runtime.

The unshift method has to increase every element's index, then insert it to the front. This means that the method has to iterate over the entire array, hence  $O(n)$ .