

Results for the extraLargeArray

insert 499.1868 ms

append 2.4577 ms

|              | Tiny array   | Small array  | Medium array | Large array   | Extra large array |
|--------------|--------------|--------------|--------------|---------------|-------------------|
| insert(ms)   | 23.5 $\mu$ s | 30.9 $\mu$ s | 112 $\mu$ s  | 5.018         | 499.1868          |
| append(ms)   | 57.6 $\mu$ s | 64.3 $\mu$ s | 90 $\mu$ s   | 386.8 $\mu$ s | 2.4577            |
| Amount value | 10           | 100          | 1000         | 10000         | 100000            |

Both functions scale at an exponential rate. The append function with the unshift is definitely faster than pushing the number to the array. Make no mistake these are both really fast but if you had to scale this even larger this could make the difference in your code from running fast and efficiently or not at all. One thing to notice is that the insert function is faster if it has less to sort. There is a use case for both of these depending on the requirements necessary for your code. The reason push is faster is because it is reading for the end of the array instead of the unshift that has to read over the array thousands of times.