Assessment 7 Runtime Analysis

Array Size	Insert	Append
Extra Large	836.231ms	3.6187mx
Large	8.4896ms	692.6µs
Medium	184.9µs	151.4µs
Small	45.6µs	96.6µs
Tiny	55.7µs	128.2µs

The append method scales much better than the insert method, except for small or very small arrays. This is due to the fact that as the arrays grow larger, there are more elements in the array that have to be shifted for the new elements to be inserted. Appending elements does not shift other elements and so can be accomplished much more quickly depending on the number of the elements. When the array is small it takes more time to go through the array in order to append an element at the end, but as the array grows larger it takes more time to unshift all the other elements and to insert new ones at the beginning.