

STEP 2: Runtime Analysis

Performance Table

Array Size	Tiny	Small	Medium	Large	Extra Large
Append Time	109.6 μ s	24 μ s	64.4 μ s	531.4 μ s	4.439 ms
Insert Time	41.9 μ s	20.8 μ s	178.4 μ s	13.0018 ms	1.3031288 s

Results and Summary

There is no question that the Append Function scales way better than the Insert function. The chart of the given arrays makes it clear that with small numbers the differences are negligible, but as you get into larger numbers the time required grows extremely fast. For fun I added another test called “ridiculous” with 1000000 as the given number. It took about 16 ms for the append function to process and over 3 minutes for the insert function to complete!