

Homework 9 Results Summary

The time it took for the Linear Search algorithm to find the target index was 3.110900000000001E-002 seconds, and the time it took for the Binary Search to find the target index for the same data was 3.99999999990123E-006 seconds. This is expected for two reasons: one, the target index was near the end of a very long list, making the linear search work for long time. The other reason is that a Linear Search has to go through as many evaluations as the array is long, whereas a Binary Search goes through at most $N = 1 + \text{Floor}(\log_2([array\ size]))$ iterations, albeit with the iterations taking a little bit longer due to the extra comparisons and calculations for the bounds.