

## Quick Sort – Ascending Initialization

- The 11 data points indicate an  $O(n^2)$  relationship between list length and sorting time. The relation between length of list and time can be modeled by  $.000000000823 * n^2 - .000003 * n + .197$
- Prediction for the time required for Merge Sort to sort an ascending (pre-sorted) list of length 10,000,000:  $y(10000000) = 82270.197$  seconds or 22.85 hours

