

## Quick Sort – Random Initialization

- The 11 data points indicate an  $O(n \log_2 n)$  relationship between list length and sorting time. The relation between length of list and time can be modeled by  $n \cdot \log_2(n) / 138064820.914$
- Prediction for the time required for Quick Sort to sort a randomly initialized list of length 10,000,000,000:  $y(10000000000) = 2406.06$  seconds or 40.101 minutes

