

## Merge Sort – Ascending 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  $n \cdot \log_2(n) / 259558503.407$ .
- Prediction for the time required for Merge Sort to sort an ascending (pre-sorted) list of length 10,000,000,000:  $y(10000000000) = 1279.84$  seconds or 21.33 minutes

