Table 1.0 Sorting algorithm on Unsorted array random numbers

|  |  |  |  |
| --- | --- | --- | --- |
| SIZE of array | Insertion-Sort  Number of char operations | Merge-Sort  Number of char operations | Quick-Sort  Number of char operations |
|  | Program Output | Program Output | Program Output |
| 10 | 20 | 34 | 19 |
| 50 | 588 | 286 | 136 |
| 100 | 2250 | 672 | 310 |
| 500 | 59321 (**5932.1 in graph)** | 4488 | 1727 |
| 1000 | 245591(**24559.1 in graph**) | 9976 | 3813 |

Number of comparisons

Number of items to sort

Skewed the data slightly to show the contrast between the three and to show the trend as items increase

Table 2.0 Sorting algorithm on Sorted array of random numbers

|  |  |  |  |
| --- | --- | --- | --- |
| SIZE of arrays | Insertion-Sort  Number of char operations | Merge-Sort  Number of char operations | Quick-Sort  Number of char operations |
|  | Program Output | Program Output | Program Output |
| 10 | 9 | 34 | 11 |
| 50 | 49 | 286 | 61 |
| 100 | 99 | 672 | 125 |
| 500 | 499 | 4488(2000 in the graph) | 521 |
| 1000 | 999 | 9976(3000 in the graph) | 1053(1500 in graph) |

Number of comparisons

Number of items to sort

Skewed the data slightly to show the contrast between the three and to show the trend as items increase