|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Input**  **(Array size)** | **Time Complexity** | **Bubble Sort**  **(Time in microsec and no. of operations)** | **Heap Sort**  **(Time in microsec and no. of operations)** | **Insertion Sort**  **(Time in microsec and no. of operations)** | **Merge Sort**  **(Time in microsec and no. of operations)** | **Quick Sort**  **(Time in microsec and no. of operations)** |
| 10 | Best | 0  0 | 0  25 | 0  0 | 0  0 | 0  15 |
| Average | 0  18 | 0  27 | 0  18 | 0  9 | 0  15 |
| Worst | 0  45 | 0  29 | 0  45 | 0  9 | 0  29 |
| 100 | Best | 0  0 | 0  577 | 0  0 | 0  0 | 0  413 |
| Average | 0  2609 | 0  582 | 0  2609 | 0  256 | 0  413 |
| Worst | 0  4950 | 0  599 | 0  4950 | 0  256 | 0  2549 |
| 1000 | Best | 0  0 | 1002  9091 | 0  0 | 0  0 | 0  5700 |
| Average | 0  248594 | 1003  9076 | 0  248594 | 1001  4302 | 0  5700 |
| Worst | 0  499500 | 1004  9120 | 0  499500 | 1001  4302 | 2197  250499 |
| 10^4 | Best | 140483  0 | 1003  124106 | 140439  0 | 2005  0 | 2024  88074 |
| Average | 296742  25341218 | 1030  124275 | 77960  25341218 | 2005  59127 | 2024  88074 |
| Worst | 234424  49995000 | 3006  124156 | 156119  49995000 | 2005  59127 | 194545  25004999 |
| 10^5 | Best | 14116119  0 | 31645  1574982 | 0  0 | 5830  0 | 12650  1130133 |
| Average | 36571386  2506044511 | 34176  1574862 | 8534954  2506044511 | 759728  25700 | 12650  1130133 |
| Worst | 24866306  4999950000 | 35596  1575086 | 16712452  4999950000 | 759728  25700 | timeout |