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| --- | --- | --- | --- | --- | --- | --- |
| Algorithm/size | experiment | 10000 | 15000 | 20000 | 25000 | **Notes** |
| Selection sort | F(n)=O(n2) | 100000000 | 255000000 | 400000000 | 625000000 |  |
| Calculated-time | ----------- | 0.71145 | 1.0290196 | 2.69375 |
| #1 | 0.279000 | 0.656000 | 1.724000 | 1.891000 |
| #2 | 0.275000 | 0.657000 | 1.188000 | 1.900000 |
| Counting Sort | F(n)=O(n+m) | 10.100 | 15.100 | 20.100 | 25.100 |  |
| Calculated-time | ----------- | 1.4950495 | 0.0013311 | 0.000000 |
| #1 | 0.001000 | 0.001000 | 0.000000 | 0.001000 |
| #2 | 0.000000 | 0.001000 | 0.001000 | 0.000000 |
| Insertion Sort | F(n)=O(n2) | 100000000 | 255000000 | 400000000 | 625000000 |  |
| Calculated-time | ----------- | 0.19635 | 0.4705882 | 0.525 |
| #1 | 0.077000 | 0.300000 | 0.336000 | 0.773000 |
| #2 | 0.080000 | 0.179000 | 0.320000 | 0.580000 |
| Merge Sort | F(n)=O(nlogn) | 40000 | 62641.36 | 86020.59 | 109948.50 |  |
| Calculated-time | ----------- | 0.3179049 | 0.574007 | 1.1311759 |
| #1 | 0.203000 | 0.418000 | 0.855000 | 1.072000 |
| #2 | 0.175000 | 0.359000 | 0.733000 | 0.983000 |
| Quick Sort | F(n)=O(n2) | 100000000 | 255000000 | 400000000 | 625000000 |  |
| Calculated-time | ----------- | 0.01275 | 0.0094117 | 0.0218750 |
| #1 | 0.005000 | 0.006000 | 0.014000 | 0.016000 |
| #2 | 0.004000 | 0.007000 | 0.011000 | 0.014000 |
| Heap Sort | F(n)=O(nlogn) | 40000 | 62641.36 | 86020.59 | 109948.50 |  |
| Calculated-time | ----------- | 0.00313207 | 0.008239 | 0.0076689 |
| #1 | 0.002000 | 0.006000 | 0.006000 | 0.006000 |
| #2 | 0.002000 | 0.004000 | 0.007000 | 0.006000 |