|  |  |
| --- | --- |
| Heap Sort | |
| n | Run Time (ms) |
| 1000 | 0.035395 |
| 2000 | 0.085694 |
| 3000 | 0.129623 |
| 4000 | 0.174813 |
| 5000 | 0.218141 |
| 6000 | 0.261589 |
| 7000 | 0.301311 |
| 8000 | 0.373964 |
| 9000 | 0.438084 |
| 10000 | 0.449442 |
| 11000 | 0.517228 |
| 12000 | 0.588921 |
| 13000 | 0.596853 |
| 14000 | 0.677258 |
| 15000 | 0.804898 |
| 16000 | 0.83152 |
| 17000 | 0.912286 |
| 18000 | 0.880616 |
| 19000 | 0.947201 |
| 20000 | 0.981574 |
| 21000 | 0.993172 |
| 22000 | 1.19545 |
| 23000 | 1.38997 |
| 24000 | 1.18944 |
| 25000 | 1.62139 |
| 26000 | 1.28307 |
| 27000 | 1.35223 |
| 28000 | 1.53354 |
| 29000 | 1.54532 |
| 30000 | 1.67055 |
| 31000 | 1.59976 |
| 32000 | 1.72007 |
| 33000 | 1.88521 |
| 34000 | 1.74302 |
| 35000 | 1.86279 |
| 36000 | 1.95059 |
| 37000 | 1.99145 |
| 38000 | 2.0757 |
| 39000 | 2.10275 |
| 40000 | 2.31932 |
| 41000 | 2.55207 |
| 42000 | 2.34739 |
| 43000 | 2.51301 |
| 44000 | 2.50748 |
| 45000 | 2.45568 |
| 46000 | 2.84887 |
| 47000 | 2.93078 |
| 48000 | 2.61661 |
| 49000 | 2.79996 |
| 50000 | 2.81648 |

Constant: 4.43924 x 10-9

|  |  |
| --- | --- |
| Quick Sort | |
| n | Run Time (ms) |
| 1000 | 0.050359 |
| 2000 | 0.136233 |
| 3000 | 0.188455 |
| 4000 | 0.259125 |
| 5000 | 0.308282 |
| 6000 | 0.362787 |
| 7000 | 0.421198 |
| 8000 | 0.509176 |
| 9000 | 0.602021 |
| 10000 | 0.625157 |
| 11000 | 0.732365 |
| 12000 | 0.798107 |
| 13000 | 0.822325 |
| 14000 | 0.955553 |
| 15000 | 1.09113 |
| 16000 | 1.08163 |
| 17000 | 1.14797 |
| 18000 | 1.19893 |
| 19000 | 1.32345 |
| 20000 | 1.40752 |
| 21000 | 1.39286 |
| 22000 | 1.75624 |
| 23000 | 1.68071 |
| 24000 | 1.68762 |
| 25000 | 1.91399 |
| 26000 | 1.71268 |
| 27000 | 1.89753 |
| 28000 | 2.00203 |
| 29000 | 2.0483 |
| 30000 | 2.42587 |
| 31000 | 2.28249 |
| 32000 | 2.28754 |
| 33000 | 2.50489 |
| 34000 | 2.43777 |
| 35000 | 2.54918 |
| 36000 | 2.57863 |
| 37000 | 2.69852 |
| 38000 | 2.61439 |
| 39000 | 2.72568 |
| 40000 | 2.90001 |
| 41000 | 2.98486 |
| 42000 | 3.07092 |
| 43000 | 3.30132 |
| 44000 | 3.12542 |
| 45000 | 3.23395 |
| 46000 | 3.65515 |
| 47000 | 3.57535 |
| 48000 | 3.42409 |
| 49000 | 3.66567 |
| 50000 | 3.64301 |

Constant: 6.21173 x 10-9

|  |  |
| --- | --- |
| Insertion Sort | |
| n | Run Time (ms) |
| 1000 | 0.3197 |
| 2000 | 1.31365 |
| 3000 | 2.82039 |
| 4000 | 5.08088 |
| 5000 | 7.83703 |
| 6000 | 11.2222 |
| 7000 | 15.4294 |
| 8000 | 20.2162 |
| 9000 | 25.6849 |
| 10000 | 31.3974 |
| 11000 | 40.5257 |
| 12000 | 45.7579 |
| 13000 | 54.754 |
| 14000 | 62.8744 |
| 15000 | 72.8857 |
| 16000 | 83.212 |
| 17000 | 92.6194 |
| 18000 | 106.533 |
| 19000 | 119.7 |
| 20000 | 130.293 |
| 21000 | 145.711 |
| 22000 | 158.206 |
| 23000 | 177.172 |
| 24000 | 188.144 |
| 25000 | 215.045 |
| 26000 | 214.819 |
| 27000 | 231.471 |
| 28000 | 252.077 |
| 29000 | 269.103 |
| 30000 | 309.323 |
| 31000 | 322.81 |
| 32000 | 348.898 |
| 33000 | 368.227 |
| 34000 | 371.947 |
| 35000 | 403.709 |
| 36000 | 430.833 |
| 37000 | 450.9 |
| 38000 | 476.188 |
| 39000 | 503.419 |
| 40000 | 517.633 |
| 41000 | 579.357 |
| 42000 | 575.594 |
| 43000 | 618.435 |
| 44000 | 646.397 |
| 45000 | 671.683 |
| 46000 | 703.444 |
| 47000 | 745.828 |
| 48000 | 768.501 |
| 49000 | 805.606 |
| 50000 | 803.31 |

Constant: 3.4465 x 10-10