**SORTING**

|  |  |  |
| --- | --- | --- |
| **Size(N)** | **Bubble(BEST, AVG, WORST)** | **Insertion(BEST, AVG, WORST)** |
| 10 | Exchange :- [0], [13], [45]  Time :- [0.000430], [0.000330], [0.000390] | Exchange :- [0], [13], [32]  Time :- [0.000380], [0.000380], [0.000520] |
| 20 | Exchange :- [0], [115], [190]  Time :- [0.000470], [0.000490], [0.000490] | Exchange :- [0], [115], [75]  Time :- [0.000570], [0.000510], [0.000480] |
| 50 | Exchange :- [0], [561], [1225]  Time :- [0.000380], [0.000300], [0.000440] | Exchange :- [0], [561], [664]  Time :- [0.000300], [0.000650], [0.000390] |
| 100 | Exchange :- [0], [2360], [4950]  Time :- [0.000470], [0.000380], [0.000400] | Exchange :- [0], [2360], [2590]  Time :- [0.000470], [0.000440], [0.000370] |
| 1000 | Exchange :- [0], [248145], [499487]  Time :- [0.0041], [0.008150], [0.010550] | Exchange :- [0], [248145], [251342]  Time :- [0.000370], [0.00564], [0.005820] |
| 10000 | Exchange :- [0], [24952888], [49993478]  Time :- [0.387530], [0.792360], [1.022040] | Exchange :- [0], [24952888], [24040590]  Time :- [0.000630], [0.538910], [0.540960] |
| 100000 | Exchange :- [0], [2491977701], [499994997]  Time :- [18.60056], [49.57843], [34.76100951] | Exchange :- [0], [2419977701], [2507972296]  Time :- [0.000475], [14.30370], [28.5665] |

Iterative and Recursive codes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Size | Factorial  Iterative | Factorial  Recursive | Fibonacci  Iterative | Fibonacci  Recursive |
| 5 | 0.000002 | 0.000002 | 0.00001 | 0.000007 |
| 10 | 0.000001 | 0.000002 | 0.000027 | 0.000011 |
| 15 | 0.000003 | 0.000002 | 0.000016 | 0.000019 |
| 20 | 0.000002 | 0.000001 | 0.000013 | 0.000083 |
| 25 | 0.000001 | 0.000003 | 0.000017 | 0.000790 |
| 30 | 0.000002 | 0.000002 | 0.000095 | 0.009001 |
| 35 | 0.000002 | 0.000002 | 0.000109 | 0.104275 |
| 40 | 0.000002 | 0.000002 | 0.000132 | 1.131179 |
| 45 | 0.000002 | 0.000002 | 0.000178 | 12.619982 |
| 50 | 0.000002 | 0.000003 | 0.000188 | 139.113511 |
| 100 | 0.000003 | 0.000004 | 0.000282 | UNKNOWN |