**Elementary Sorts Analysis**

Table of Results:

|  |  |  |  |
| --- | --- | --- | --- |
| Array Size | Insertion | Selection | Bogo |
| 10 | 0.0 | 0.0 | 0.525 |
| 100 | 0.0 | 0.0 | N.A. |
| 1000 | 0.0 | 0.0 | N.A. |
| 10000 | 0.03 | 0.05 | N.A. |
| 100000 | 0.844 | 4.172 | N.A. |

Time Complexity:

Insertion: Best case --- O(N) Worst case --- O(N2)

Selection: Best case --- O(N2) Worst case --- O(N2)

BogoSort: Best case --- O(N) Worst case --- Unbounded; O(∞)

* Because Insertion sort has a better best-case complexity than Selection sort, the results show that Insertion sort takes a significantly shorter time to sort an array.
* Since BogoSort has an unbounded worst-case complexity, I did not use any datasets bigger than 10 ints. Hence, the results for BogoSort being not applicable.