|  |  |  |  |
| --- | --- | --- | --- |
| **Sorting algorithm** | **Insertion Sort** | **Selection sort** | **Bubble sort** |
| **Input size** | **Time taken ( in seconds)** | **Time taken ( in seconds)** | **Time taken ( in seconds)** |
| 3 | 1.32E-04 | 8.90E-05 | 8.67E-05 |
| 5 | 7.43E-05 | 7.74E-05 | 0.0001689 |
| 10 | 8.35E-05 | 1.85E-04 | 0.000237 |
| 25 | 0.0001617 | 0.0002599 | 0.0001471 |
| 50 | 0.0005036 | 0.0002308 | 0.0007086 |
| 100 | 0.0014351 | 0.0004748 | 0.0010654 |
| 500 | 0.0235994 | 0.0150214 | 0.0318497 |
| 1000 | 0.1300813 | 0.073409 | 0.2217538 |

I have considered a highly unsorted array as input for all the three sorting algorithms. Below is my observation,  
1. Insertion sort is efficient than selection sort when the input array is partially sorted.  
2. Selection sort is efficient than insertion sort when the input array is highly unsorted.

