**Practical 1**

**Question 4**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sorting Method** | **Array Size** | **Sorting Option** | **Results** |
| Bubble Sort | 50000 | Ascending | 1129.0 |
|  | 10000 | Descending | 178702.33 |
|  | 1000 | Random | 2194.33 |
|  | 100 | Nearly Sorted | 113.0 |
| Selection Sort | 50000 | Ascending | 1401365.33 |
|  | 10000 | Descending | 56496.66 |
|  | 1000 | Random | 3369.0 |
|  | 100 | Nearly Sorted | 228.0 |
| Insertion Sort | 50000 | Ascending | 1573.33 |
|  | 10000 | Descending | 23400.667 |
|  | 1000 | Random | 31478.0 |
|  | 100 | Nearly Sorted | 15.0 |

Bubble Sort was the fastest for sorting in ascending. Insertion Sort as the fastest for descending and nearly sorted. Selection was the fastest for random. In terms of handling larger array sizes, Bubble sort still showed superiority over other sorting methods.