|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | **Bubble**  **Sort** | **Selection Sort** | **Insertion sort** | **Merge Sort** | **Quick**  **Sort** | **Counting**  **Sort** | **Radix**  **Sort** | **Bucket**  **Sort** | **Heap Sort** | **Shell**  **Sort** |
| **Time Complexity (Best)** | O(n) | O(n²) | O(n) | O(n\*log n) | O(n\*log n) | O(n+k) | O(n+k) | O(n+k) | O(n\*log n) | O(n\*log n) |
| **Time Complexity (Worst)** | O(n²) | O(n²) | O(n²) | O(n\*log n) | O(n²) | O(n+k) | O(n+k) | O(n²) | O(n\*log n) | O(n²) |
| **Time Complexity (Average)** | O(n²) | O(n²) | O(n²) | O(n\*log n) | O(n\*log n) | O(n+k) | O(n+k) | O(n) | O(n\*log n) | O(n\*log n) |
| **Space Complexity** | O(1) | O(1) | O(1) | O(n) | O(log n) | O(max) | O(max) | O(n+k) | O(1) | O(1) |
| **Stability** | Yes | No | Yes | Yes | No | Yes | Yes | Yes | No | No |