|  |  |  |  |
| --- | --- | --- | --- |
|  | Bubble Sort | Selection Sort | Insertion Sort |
| Idea | Keep looping over an array while swapping two values each time if needed until the array is sorted | Keep scanning the array searching for the value in order then swap it with the value setting in its place until the array is sorted | While assuming the first element to be the sorted array keep inserting sequential values into that array in order and shift the values to the right each time |
| Data Sensitivity | Not Sensitive  Optimized (Sensitive) | Not Sensitive | Sensitive |
| Time Complexity Best Case | O(n2)  **O(n2), Optimized (O(n))** | O(n2)  **O(n2)** | O(n2)  **O(n)** |
| Space Complexity | O(1)  In-Place | O(1)  In-Place | O(1)  In-Place |
| Stability | Stable | Not Stable | Stable |
| Data Movements | O(n2) | O(n) | O(n2) |