

SelectionSort – Practical Improvements

- **Cache the current minimum value**
 - Keep `minVal = a[i]` alongside `minIndex`. Compare `a[j]` to `minVal` (a local variable) instead of repeatedly reading `a[minIndex]`.
- **Guard the timer with try/finally**
 - `perf.startTimer(); try { ... } finally { perf.stopTimer(); }` to ensure consistent timing.
- **Early exit for tiny inputs**
 - `if (n < 2) return;` to avoid loop overhead.
- **Optional metrics switch**
 - Add a boolean `metricsOn` to disable counters during pure timing runs (lower overhead in benchmarks).
- **Stable variant (if needed)**
 - Replace swap with block shift: `System.arraycopy(a, i, a, i+1, minIndex - i); a[i] = key;` (stable but more writes).
- **Hybrid cutoff**
 - For large `n`, delegate to a faster sort (Quick/Merge/Heap), keep Selection Sort only for very small partitions.