Exercise 3: Sorting Customer Orders

**Performance Comparison:**

* **Bubble Sort:** Has a time complexity of O(n^2) in the worst and average cases, making it inefficient for large datasets. It repeatedly swaps adjacent elements, which can be slow and is not generally recommended for sorting large datasets.
* **Quick Sort:** Generally much faster than Bubble Sort, with an average time complexity of O(n log n). Quick Sort is efficient and often used in practice, though it has a worst-case complexity of O(n^2). The worst-case can be mitigated by choosing a good pivot, often done randomly or by using the median of three elements.

**Suitability:**

* **Quick Sort** is generally preferred over Bubble Sort due to its superior average-case performance and scalability. For an e-commerce platform, where sorting efficiency can significantly impact performance, Quick Sort is a more appropriate choice, especially for handling large numbers of orders.