1. **Why Data Structures and Algorithms Matter for Handling Large Inventories:**
   * **Efficient Retrieval**: In a large inventory, you need to find specific items quickly. Properly chosen data structures allow for fast lookups, reducing the time it takes to retrieve information.
   * **Space Efficiency**: Large inventories can consume significant memory. Well-designed data structures optimize memory usage.
   * **Operations (Add, Update, Delete)**: Managing inventory involves adding new products, updating quantities, and removing items. Efficient data structures ensure these operations are performed swiftly.
2. **Suitable Data Structures**:
   * **ArrayList**:
     + Good for maintaining an ordered list of products.
     + Fast random access (O(1)) by index.
     + Adding/removing elements at the end is efficient (O(1)), but inserting/removing in the middle requires shifting elements (O(n)).
   * **HashMap**:
     + Ideal for quick lookups based on a unique key (e.g., product ID).
     + Fast insertion, retrieval, and deletion (average O(1) time complexity).
   * **TreeMap**:
     + Sorted map based on keys (e.g., product IDs).
     + Useful if you need to maintain order (e.g., alphabetical order of product names).
     + Insertion, retrieval, and deletion have average time complexity of O(log n).