### Algorithm: Counting Sort

To organize her fleet's resources, Princess Elara used the Counting Sort algorithm to sort the quantities of various supplies quickly.

#### Initialize Data Structures:

* Princess Elara used a series of nets (count array) to count the occurrences of each supply quantity.

#### Count and Sort:

* She counted each quantity and then placed them back into the list in sorted order.

#### Implementation:

| **def** counting\_sort(supplies: List[int]) -> List[int]:  max\_supply = max(supplies)  count = [0] \* (max\_supply + 1)  **for** supply **in** supplies:  count[supply] += 1  sorted\_supplies = []  **for** i **in** range(len(count)):  sorted\_supplies.extend([i] \* count[i])  **return** sorted\_supplies  *# Example usage:*  supplies = [4, 2, 2, 8, 3, 3, 1]  print(counting\_sort(supplies)) *# Output: [1, 2, 2, 3, 3, 4, 8]* |
| --- |

#### Explanation:

Initialize:

* count: An array to count occurrences of each supply quantity.

Count and Sort:

### Princess Elara counted each quantity and placed them back into the list in sorted order.