**Greedy Algorithm Confidence Builder (HackWithInfy Focused)**

Solve all problems using Greedy Algorithm as the primary strategy in the sequence below to build your confidence from easy to hard levels.

**Warm-Up (Easy Level)**

**Problem 1: Buy Two Chocolates**

**LeetCode:** [2706. Buy Two Chocolates](https://leetcode.com/problems/buy-two-chocolates/)  
**YouTube Solution:** [Buy Two Chocolates](https://www.youtube.com/watch?v=b1xdtx1JE4U)

**Problem Description:**

You are given an array of prices of chocolates. Find the minimum total cost of buying any two chocolates. If you can't buy two chocolates, return the amount you have.

**Input Format:**

* n → Number of chocolates
* prices[] → Array of prices
* money → Amount you have

**Output Format:**

* Remaining money after buying the two cheapest chocolates.

**Constraints:**

* 2 ≤ n ≤ 100
* 1 ≤ prices[i] ≤ 100
* 1 ≤ money ≤ 100

**Sample Input:**

5

1 2 2 5 7

10

**Sample Output:**

7

**Problem 2: Array Partition**

**LeetCode:** [561. Array Partition](https://leetcode.com/problems/array-partition/)  
**YouTube Solution:** [Array Partition](https://youtu.be/B7LZZoO0pIo?si=21gdGUFriY7-bki2)

**Problem Description:**

Given an array of 2n integers, group these integers into n pairs to maximize the sum of the minimums in each pair.

**Input Format:**

* n → Number of pairs
* nums[] → Array of 2n integers

**Output Format:**

* Maximum sum of minimums in all pairs.

**Constraints:**

* 1 ≤ n ≤ 10000
* -10000 ≤ nums[i] ≤ 10000

**Sample Input:**

4

1 4 3 2

**Sample Output:**

4

**Problem 3: DI String Match**

**LeetCode:** [942. DI String Match](https://leetcode.com/problems/di-string-match/)  
**YouTube Solution:** [DI String Match | NeetCode](https://www.youtube.com/watch?v=GGpWFWaJxL0)

**Problem Description:**

You are given a string s consisting of letters 'D' and 'I'. Reconstruct a permutation of the integers [0, 1, ..., n] that matches the pattern 'D' = decreasing, 'I' = increasing.

**Input Format:**

* s → A string of length n

**Output Format:**

* Array representing the permutation

**Constraints:**

* 1 ≤ s.length ≤ 1000

**Sample Input:**

IDID

**Sample Output:**

[0, 4, 1, 3, 2]

**Skill Booster (Medium Level)**

**Problem 4: Jump Game**

**LeetCode:** [55. Jump Game](https://leetcode.com/problems/jump-game/)  
**YouTube Solution:** [Jump Game | NeetCode](https://www.youtube.com/watch?v=Yan0cv2cLy8)

**Problem Description:**

You are given an array where each element represents your maximum jump length at that position. Determine if you can reach the last index.

**Input Format:**

* n → Number of elements
* nums[] → Array of jump lengths

**Output Format:**

* Print true if reachable, otherwise false.

**Constraints:**

* 1 ≤ n ≤ 10^4
* 0 ≤ nums[i] ≤ 10^5

**Sample Input:**

5

2 3 1 1 4

**Sample Output:**

true

**Problem 5: Jump Game II**

**LeetCode:** [45. Jump Game II](https://leetcode.com/problems/jump-game-ii/)  
**YouTube Solution:** [Jump Game II | NeetCode](https://www.youtube.com/watch?v=dJ7sWiOoK7g)

**Problem Description:**

You are given an array where each element represents your maximum jump length. Find the minimum number of jumps required to reach the last index.

**Input Format:**

* n → Number of elements
* nums[] → Array of jump lengths

**Output Format:**

* Minimum number of jumps.

**Constraints:**

* 1 ≤ n ≤ 10^4
* 0 ≤ nums[i] ≤ 1000

**Sample Input:**

5

2 3 1 1 4

**Sample Output:**

2

**Problem 6: Best Time to Buy and Sell Stock with Transaction Fee**

**LeetCode:** [714. Best Time to Buy and Sell Stock with Transaction Fee](https://leetcode.com/problems/best-time-to-buy-and-sell-stock-with-transaction-fee/)  
**YouTube Solution:** [Best Time to Buy and Sell Stock with Transaction Fee | NeetCode](https://www.youtube.com/watch?v=EXIsNnSi2Ic)

**Problem Description:**

You are given an array of prices where prices[i] is the price of a stock on day i. You may complete as many transactions as you like, but pay a transaction fee for each sale. Find the maximum profit.

**Input Format:**

* n → Number of days
* prices[] → Array of stock prices
* fee → Transaction fee

**Output Format:**

* Maximum profit.

**Constraints:**

* 1 ≤ n ≤ 5 \* 10^4
* 0 ≤ prices[i] ≤ 50,000
* 0 ≤ fee ≤ 500

**Sample Input:**

6

1 3 2 8 4 9

2

**Sample Output:**

8

**Challenge Zone (Hard Level)**

**Problem 7: Reducing Dishes**

**LeetCode:** [1402. Reducing Dishes](https://leetcode.com/problems/reducing-dishes/)  
**YouTube Solution:** [Reducing Dishes | NeetCode](https://www.youtube.com/watch?v=gPM7AFzOUrk)

**Problem Description:**

You are given an array of satisfaction levels. You can cook dishes in any order. The time coefficient increases by 1 for each dish cooked. Maximize the total satisfaction.

**Input Format:**

* n → Number of dishes
* satisfaction[] → Array of satisfaction levels

**Output Format:**

* Maximum total satisfaction.

**Constraints:**

* 1 ≤ n ≤ 500
* -1000 ≤ satisfaction[i] ≤ 1000

**Sample Input:**

4

-1 -8 0 5

**Sample Output:**

14

**Problem 8: Maximum Spending After Buying Items**

**LeetCode:** [2931. Maximum Spending After Buying Items](https://leetcode.com/problems/maximum-spending-after-buying-items/)  
**Solve independently:** No available YouTube solution.

**Problem Description:**

You are given a matrix where each row represents a store’s items from cheapest to costliest. Each day you can buy the cheapest available item across all stores. Maximize the total spending by selecting items wisely.

**Input Format:**

* m → Number of stores
* n → Number of items per store
* grid[m][n] → Prices of items in each store

**Output Format:**

* Maximum total spending.

**Constraints:**

* 1 ≤ m, n ≤ 50
* 1 ≤ grid[i][j] ≤ 100

**Sample Input:**

3 3

1 2 3

3 2 1

4 4 4

**Sample Output:**

24

**Summary Table**

| **Problem** | **Level** | **LeetCode Link** | **YouTube Link** |
| --- | --- | --- | --- |
| Buy Two Chocolates | Easy | [2706](https://leetcode.com/problems/buy-two-chocolates/) | [Video](https://www.youtube.com/watch?v=7EoG1vRDA-g) |
| Array Partition | Easy | [561](https://leetcode.com/problems/array-partition/) | [Video](https://www.youtube.com/watch?v=8LkVHyzm2aE) |
| DI String Match | Easy | [942](https://leetcode.com/problems/di-string-match/) | [Video](https://www.youtube.com/watch?v=GGpWFWaJxL0) |
| Jump Game | Medium | [55](https://leetcode.com/problems/jump-game/) | [Video](https://www.youtube.com/watch?v=Yan0cv2cLy8) |
| Jump Game II | Medium | [45](https://leetcode.com/problems/jump-game-ii/) | [Video](https://www.youtube.com/watch?v=dJ7sWiOoK7g) |
| Best Time to Buy and Sell Stock with Fee | Medium | [714](https://leetcode.com/problems/best-time-to-buy-and-sell-stock-with-transaction-fee/) | [Video](https://www.youtube.com/watch?v=EXIsNnSi2Ic) |
| Reducing Dishes | Hard | [1402](https://leetcode.com/problems/reducing-dishes/) | [Video](https://www.youtube.com/watch?v=gPM7AFzOUrk) |
| Maximum Spending After Buying Items | Hard | [2931](https://leetcode.com/problems/maximum-spending-after-buying-items/) | Solve Independently |