

122. Best Time to Buy and Sell Stock II

Difficulty : Medium

<https://leetcode.com/problems/best-time-to-buy-and-sell-stock-ii>

You are given an integer array `prices` where `prices[i]` is the price of a given stock on the i^{th} day.

On each day, you may decide to buy and/or sell the stock. You can only hold **at most one** share of the stock at any time. However, you can buy it then immediately sell it on the **same day**.

Find and return *the **maximum** profit you can achieve*.

Example 1:

Input: `prices = [7,1,5,3,6,4]`

Output: `7`

Explanation: Buy on day 2 (price = 1) and sell on day 3 (price = 5), profit = $5 - 1 = 4$.
Then buy on day 4 (price = 3) and sell on day 5 (price = 6), profit = $6 - 3 = 3$.
Total profit is $4 + 3 = 7$.

Example 2:

Input: `prices = [1,2,3,4,5]`

Output: `4`

Explanation: Buy on day 1 (price = 1) and sell on day 5 (price = 5), profit = $5 - 1 = 4$.
Total profit is 4.

Example 3:

Input: `prices = [7,6,4,3,1]`

Output: `0`

Explanation: There is no way to make a positive profit, so we never buy the stock to achieve the maximum profit of 0.

Constraints:

- $1 \leq \text{prices.length} \leq 3 \times 10^4$
- $0 \leq \text{prices}[i] \leq 10^4$