

LeetCode

Day-11 Q-02: Best Time to Buy and Sell Stock II

Say you have an array `prices` for which the i^{th} element is the price of a given stock on day i .

Design an algorithm to find the maximum profit. You may complete as many transactions as you like (i.e., buy one and sell one share of the stock multiple times).

Note: You may not engage in multiple transactions at the same time (i.e., you must sell the stock before you buy again).

Example 1:

Input: `[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 = $6 - 3 = 3$.

Example 2:

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

Output: `4`

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

Note that you cannot buy on day 1, buy on day 2 and sell them later, as you are

engaging multiple transactions at the same time. You must sell before buying again.

Example 3:

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

Output: `0`

Explanation: In this case, no transaction is done, i.e. max profit = 0.

Constraints:

- `1 <= prices.length <= 3 * 10 ^ 4`
- `0 <= prices[i] <= 10 ^ 4`

