

121. Best Time to Buy and Sell Stock

Difficulty : Easy

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

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

You want to maximize your profit by choosing a **single day** to buy one stock and choosing a **different day in the future** to sell that stock.

Return *the maximum profit you can achieve from this transaction*. If you cannot achieve any profit, return 0.

Example 1:

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

Output: 5

Explanation: Buy on day 2 (price = 1) and sell on day 5 (price = 6), profit = 6-1 = 5.

Note that buying on day 2 and selling on day 1 is not allowed because you must buy before you sell.

Example 2:

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

Output: 0

Explanation: In this case, no transactions are done and the max profit = 0.

Constraints:

- $1 \leq \text{prices.length} \leq 10^5$
- $0 \leq \text{prices}[i] \leq 10^4$