

## 121. Best Time to Buy and Sell Stock

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You are given an array `prices` where `prices[i]` is the price of a given stock on the  $i^{\text{th}}$  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:

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