

# Best time to buy and sell stock (dynamic pro)

## 121. Best Time to Buy and Sell Stock

Solved

Easy

Topics



Companies

You are given an array `prices` where `prices[i]` is the price of a given stock on the `ith` 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.

```
class Solution {
    public int maxProfit(int[] prices) {
        int min_price = prices[0];
        int max_price = 0;

        for(int i = 0; i < prices.length; i++){
            if(prices[i] < min_price){
                min_price = prices[i];
            } else if(prices[i] - min_price > max_price){
                max_price = prices[i] - min_price;
            }
        }
        return max_price;
    }
}
```