

## **75 Days of Code**

### **Day 65**

**Problem no : Leetcode714**

**Problem Title :Best Time to Buy and Sell Stock with Transaction Fee**

**Problem type : DP**

**You are given an array prices where prices[i] is the price of a given stock on the ith day, and an integer fee representing a transaction fee.**

**Find the maximum profit you can achieve. You may complete as many transactions as you like, but you need to pay the transaction fee for each transaction.**

**Note:**

**You may not engage in multiple transactions simultaneously (i.e., you must sell the stock before you buy again).**

**The transaction fee is only charged once for each stock purchase and sale.**

**Example 1:**

**Input: prices = [1,3,2,8,4,9], fee = 2**

**Output: 8**

**Explanation: The maximum profit can be achieved by:**

- Buying at prices[0] = 1**
- Selling at prices[3] = 8**
- Buying at prices[4] = 4**
- Selling at prices[5] = 9**

**The total profit is  $((8 - 1) - 2) + ((9 - 4) - 2) = 8$ .**

**Example 2:**

Input: prices = [1,3,7,5,10,3], fee = 3

Output: 6

```
function maxProfit(prices: number[], fee: number): number {  
    let cash = 0;  
    let hold = -prices[0];  
  
    for (let day = 1; day < prices.length; day++) {  
        const prevCash = cash;  
        cash = Math.max(cash, hold + prices[day] - fee);  
        hold = Math.max(hold, prevCash - prices[day]);  
    }  
    return cash;  
}
```

Runtime

59 ms

Beats 95.70% of users with TypeScript

Details

Memory

51.29 MB

Beats 75.27% of users with TypeScript

