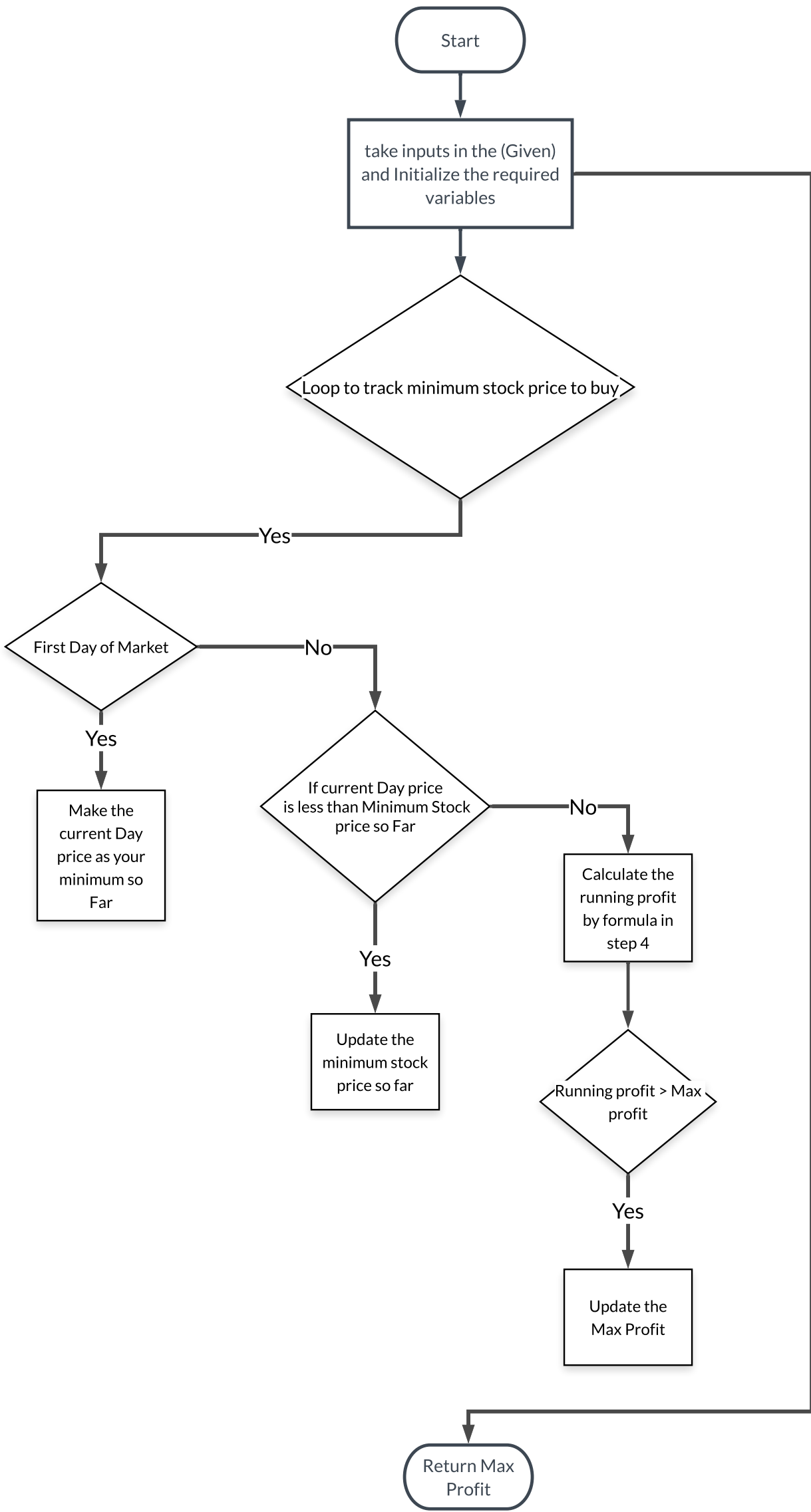


Best Time to Buy and Sell Stock

Link: <https://leetcode.com/problems/best-time-to-buy-and-sell-stock/description/?envType=problem-list-v2&envId=array>

Example



Simplified Problem Statement: Buy the stock on lowest price available and sell on the Day after buying if their exist profit. profit is to be highest profit available after the day we buy.

Given :Pointer to the first element of the Array (prices) and Size of this Array priceSize.

Key Points: 1) I must Buy before I can Sell. Buy on the Day which results in selling it on highest profit available.
2) Sell only if there is maximum profit no profit means return 0
3) Sell within remaining Days from the Day I bought the stock

My algorithm

Array Index -> Represents the Day Count
Array Element at that Index-> Represents the Price of the stock at that Day

Method 4: Greedy Approach without Nested Loops

1) First the outer loop will track the minimum price Day so Far to buy the stock. Minimum price is choosen in the present moment so we selling it for higher price later (Greedy).

2) Inside this loop we need to check if it's the first Day then we make our current Day price our minimum Stock price so far. If it's not the first day then we will check if the Current Day price is smaller than our previous Day prices if yes then we update the minimum Stock price so far with new smaller value which indicates the new buying price for the stock to gain more profit (greedy).

3) In case of when it's not the First Day and the Current Day price is not less than minum stock price so far we calculate the profit we will gain by selling at this Day which will be a running profit. If the running profit is greater than our previous profit it is considered as our new Max profit or else it's ignored.

4) In cahse we the minimum stock price so far keeps changing in every iteration and the lowest stock price is at the last Day of the array the array is sorted in non-increasing order and the profit will be 0. To calualte profit we use below formula:

Formula: Profit = selling cost - buying Day cost (minimum stock price So Far)

5) At the end of the for loop we return Max Profit.