

Best time to buy and sell stocks.

prices [7, 1, 5, 3, 6, 4]

output: 5

1. Buy = 0 (first we want to buy a stock to sell it)
2. sell = 1 (next price can be sell prices)

$\text{maxprofit} = 0$ (store the max profit after sell of stock)

2. If (prices.length == 1) {
return maxprofit;

It will return the maxprofit
 its length = 21 [7]
 ↑
 maxprofit

3. while (sell < prices.length)
because if sell prices and
buy prices at point we
don't get profit

4. If (prices[sell] > prices[buy]) {
 the profit = prices[sell] -
 prices[buy]}

Maxprofit = Math.max(maxprofit,

By using math.max() method get high number

5. else → assign sell pointer to Buy

Buy = sell

6. Increment the sell
sell++

7. return maxprofit;

Example 1

[7, 1, 5, 3, 6, 4]

1. price.length = 6 false

2. While (i < 6) i = 1

if (1 > 7) false

Buy = 1;

sell = 2;

~~set~~ i = 2

(2 < 6)

(5 > 1) true

profit = 5 - 1 = 4

$$\text{maxprofit} = (0, 4) = 4$$

$$4 \quad \text{sell} = 3$$

$$\underline{i=3}$$

$$(3 < 6) \rightarrow \text{index}$$

$$\text{prices} \leftarrow (3 > 1) \text{ true}$$

$$\text{profit} = 3 - 1 = 2$$

$$\text{maxprofit} = (4, 3) = 4$$

$$\text{sell} = 4;$$

$$\underline{i=4}$$

$$(4 < 6)$$

$$(6 > 1) \text{ true}$$

$$\text{profit} = 6 - 1 = 5$$

$$\text{maxprofit} (4, 5) = 5$$

$$\text{sell} = 5$$

$$\underline{i=5}$$

$$(5 < 6)$$

$$(4 > 1) \text{ true}$$

$$\text{profit} = 4 - 1 = 3$$

$$\text{maxprofit} = (5, 3) = 5$$

$$\text{sell} = 6$$

$$i=6$$

$$(6 < 6) \text{ false}$$

$$\text{return maxprofit}; \boxed{i=5}$$