

Partition into Subset

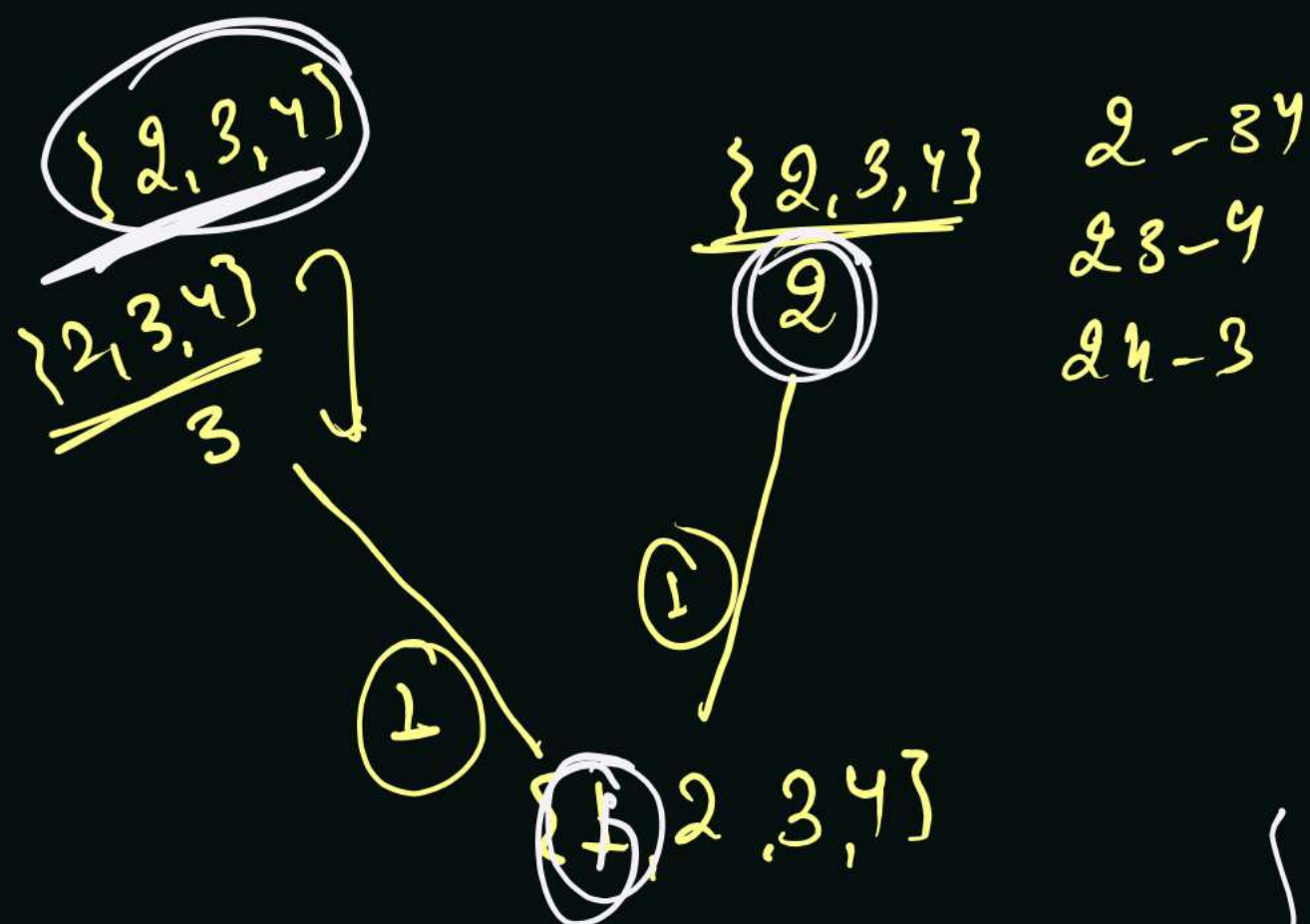
Saturday, 3 July 2021

10:17 AM

$$\underline{\underline{n=4}}$$

$$\underline{\underline{k=3}}$$

n - no. of Elements
k - partition size



$$\underline{\underline{n=4}}, \quad \underline{\underline{k=3}}$$

from left call \rightarrow
 $\{2, 3, 4\} + \textcircled{1} \rightarrow$

$$\left\{ \begin{array}{l} 2-34 \\ 23-4 \\ 24-3 \end{array} \right\} + \textcircled{1}$$

$$\{12, 3, 4\}$$

$$\{2, 13, 4\}$$

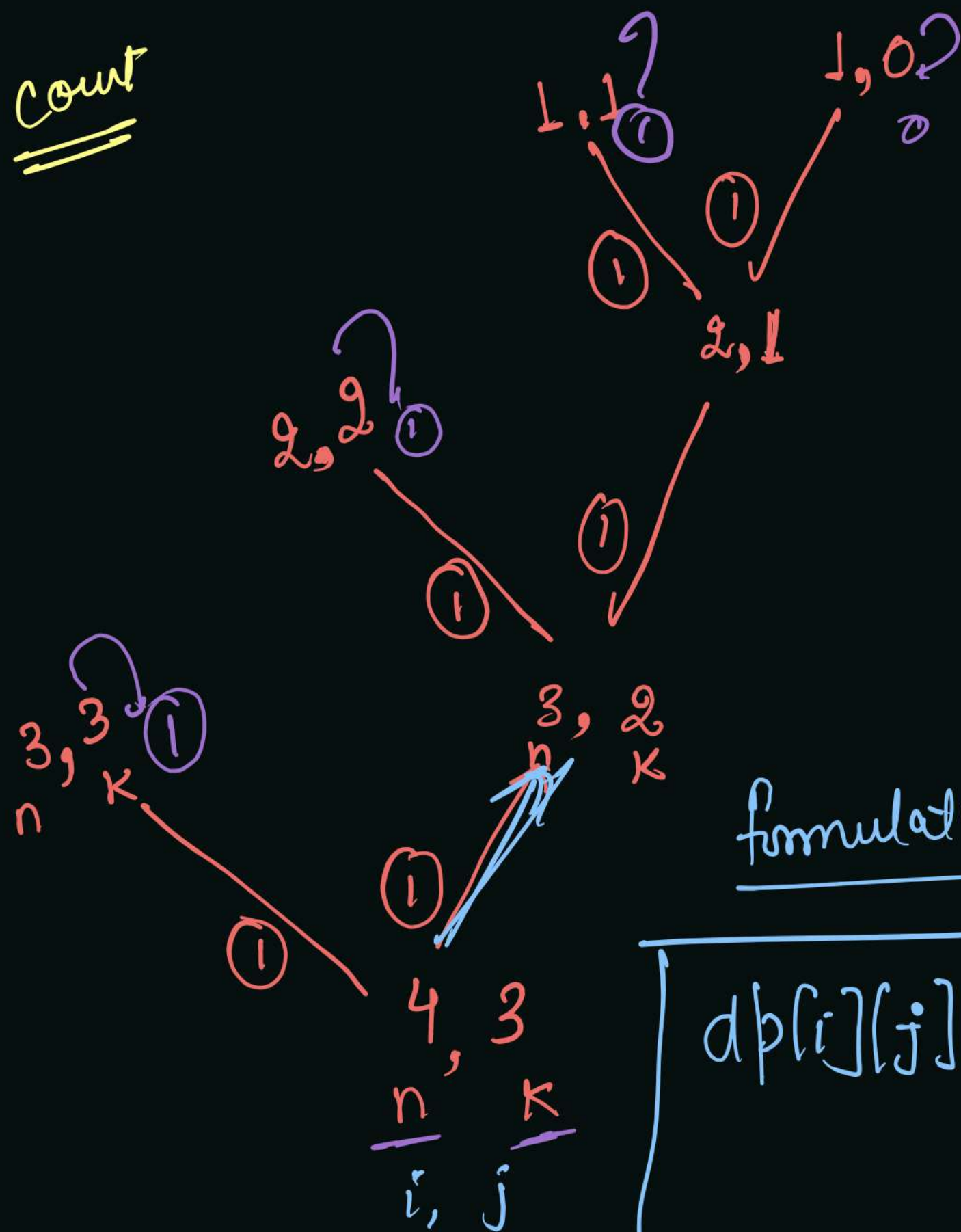
$$\{2, 3, 14\}$$

$$\left\{ \begin{array}{l} 1-2-34 \\ 1-23-4 \\ 1-24-3 \end{array} \right\}$$

$\rightarrow \textcircled{6}$

$\{1\}, \{2\}, \{3\} \rightarrow$

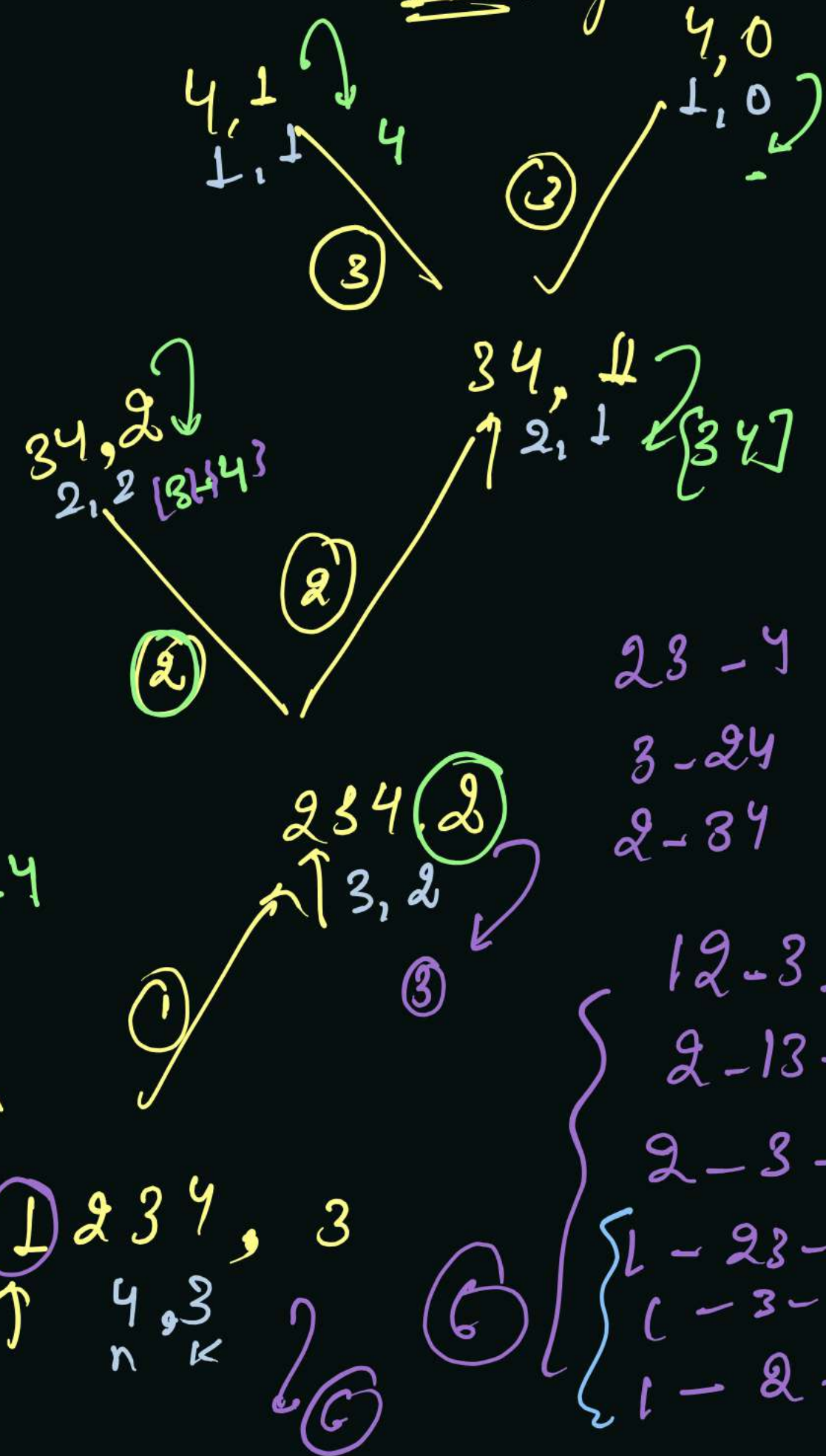
count



formulate

$$dp[i][j] = dp[i-1][j-1] + dp[i-1][j] * j$$

Printing



Buy and Sell Stocks - One Transaction Allowed

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buy - selling day
max profit

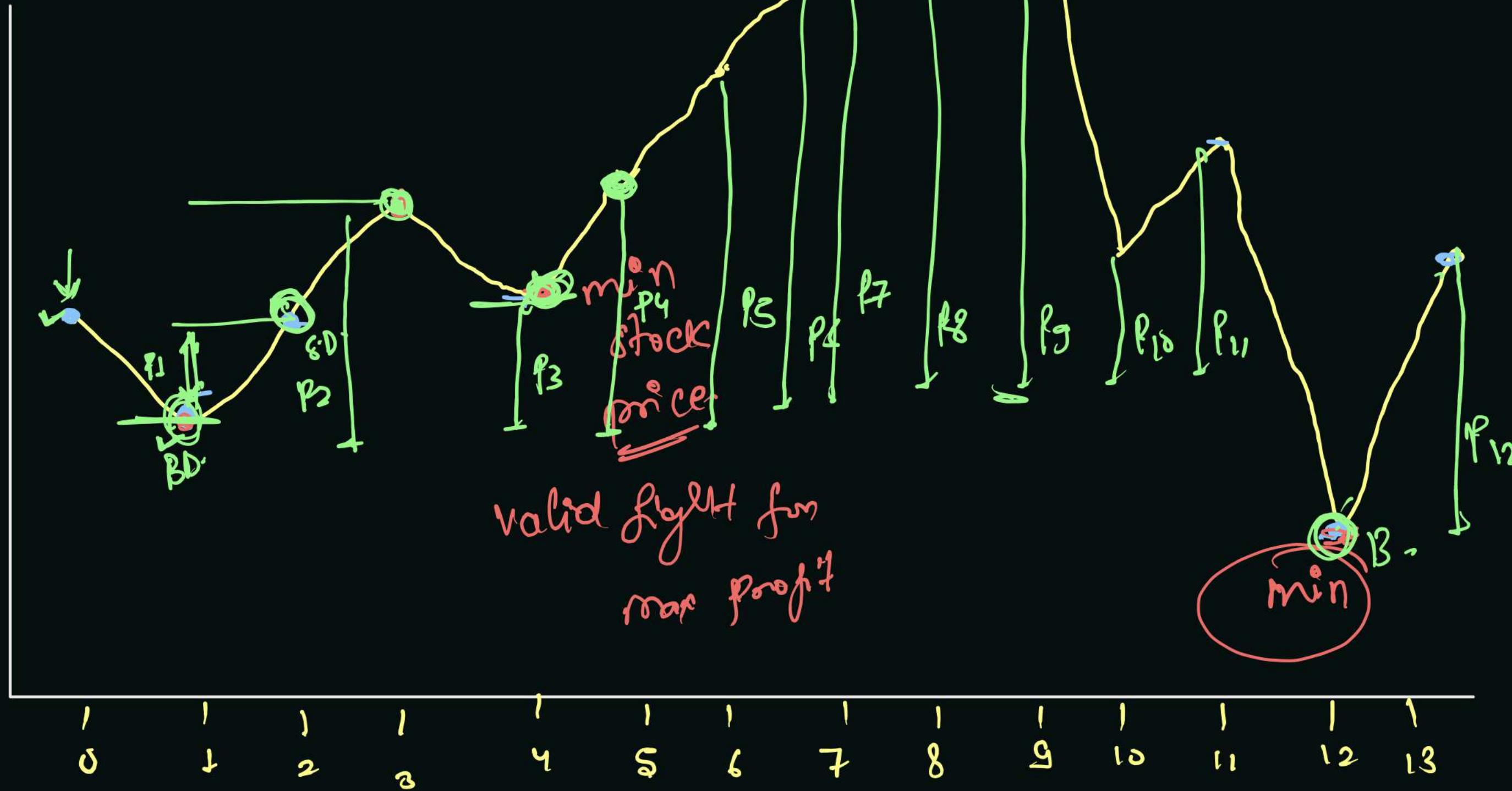
single transaction profit =

* Single Transaction

Stocks Buy

↓

stock sell



* selling day is after buying day -

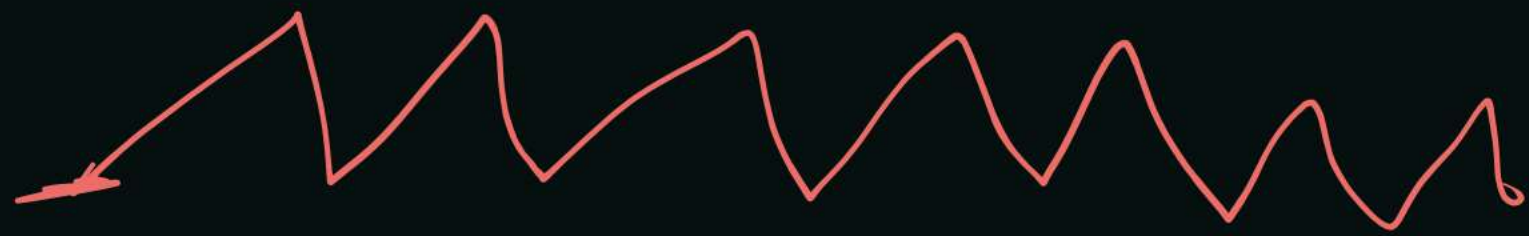
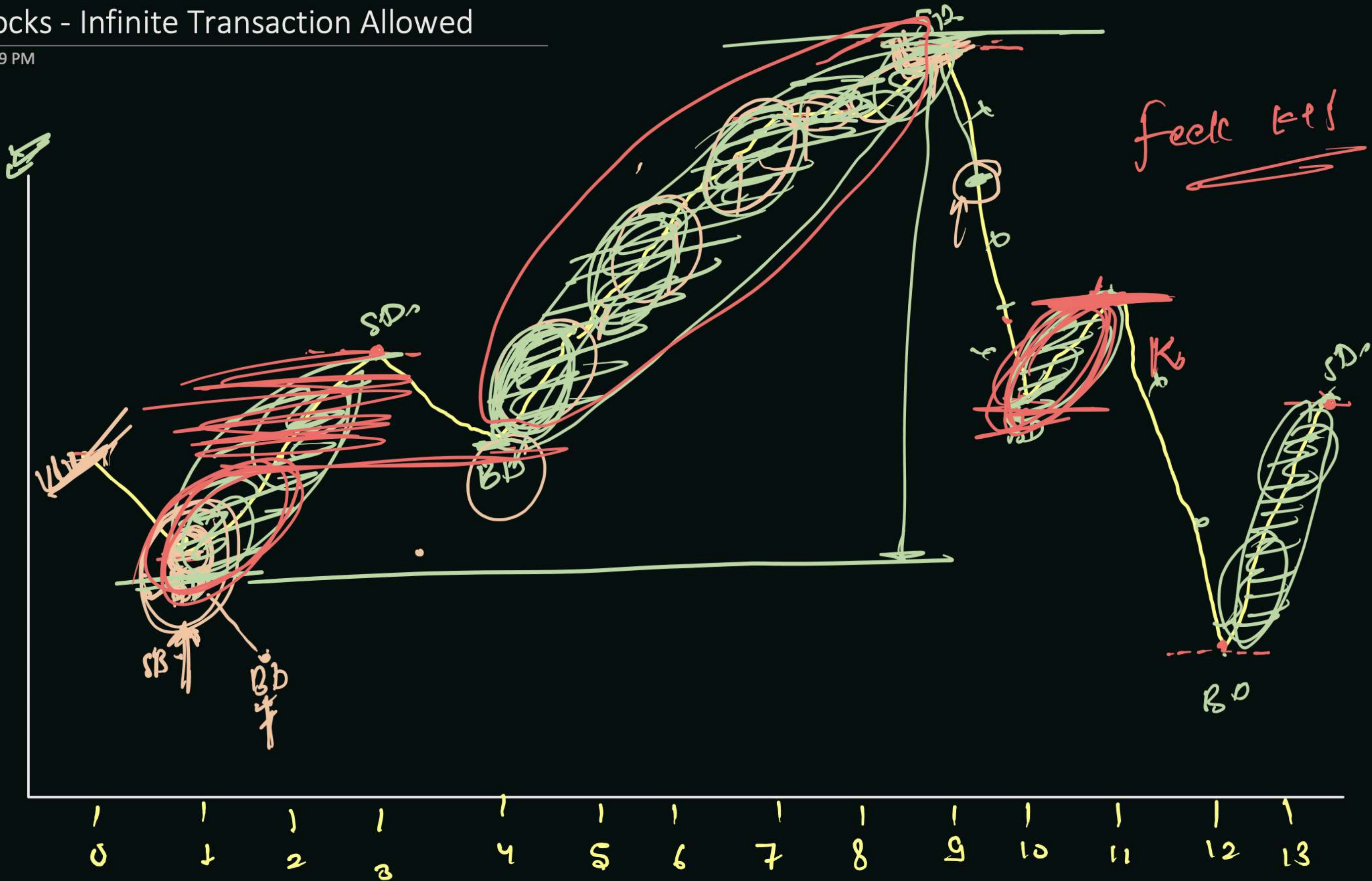
B - S
max. profit?

~~max - min~~ $\max(p_i) = p_9$

one!!

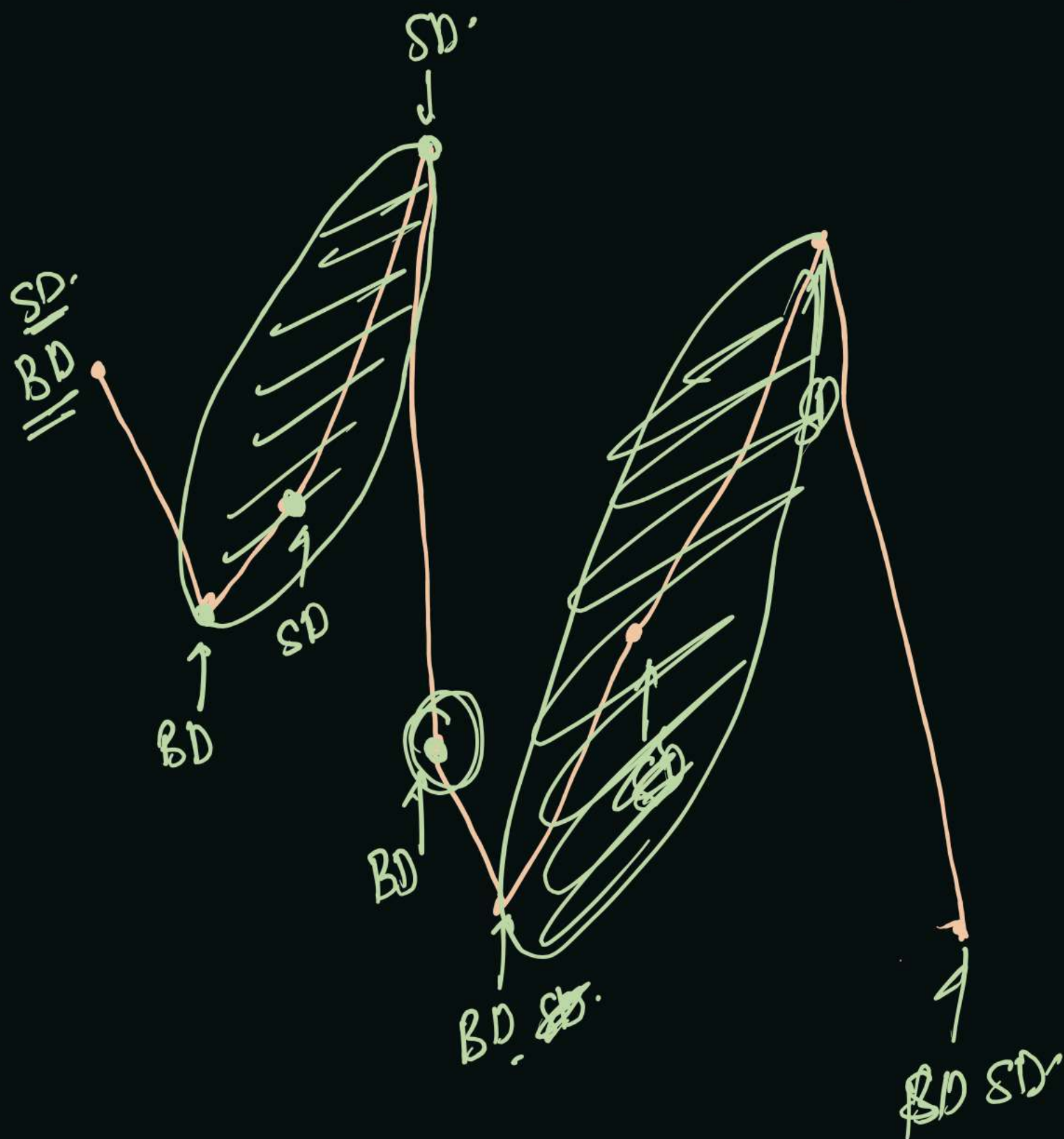
Buy and Sell Stocks - Infinite Transaction Allowed

Saturday, 3 July 2021 8:39 PM

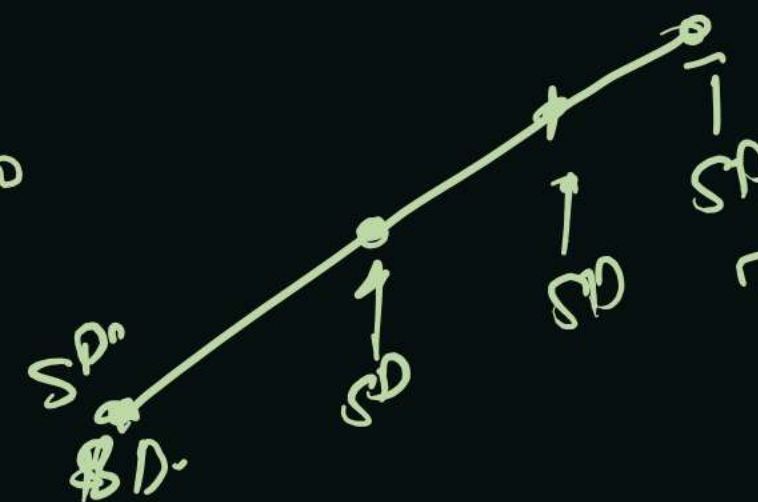


9

| | | | | | | | | |
|----|---|---|----|---|---|---|----|---|
| 11 | 6 | 7 | 19 | 4 | 1 | 6 | 18 | 4 |
|----|---|---|----|---|---|---|----|---|



profit = 0 12 12 30



```

public static int stockBuySellInfiniteTransaction(int[] price) {
    int profit = 0;

    int bd = 0; // buying day
    int sd = 0; // selling day

    for(int i = 1; i < price.length; i++) {
        if(price[i - 1] > price[i]) {
            profit += price[sd] - price[bd]; //
            bd = i; (sd = i)
        } else {
            sd = i;
        }
    }

    profit += price[sd] - price[bd];
    return profit;
}

```


Buy Sell Stocks : Infinite Transaction with fees

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| Day | Price | Profit Buy | Profit Sell |
|-----|-------|---------------|----------------|
| 0 | 10 | -10, 00 | 0 |
| 1 | 15 | 0, 10 | 2, 00 |
| 2 | 17 | -10, 00 | 4, 20 |
| 3 | 20 | -10, 00 | 7, 00 |
| 4 | 16 | -9, 00 | 7, 00 |
| 5 | 18 | -9, 00 | 7, 00 |
| 6 | 22 | -9, 00 | 10, 00 |
| 7 | 20 | -9, 00 | 10, 00 |
| 8 | 22 | -9, 00 | 10, 00 |
| 9 | 20 | -9, 00 | 10, 00 |
| 10 | 23 | -9, 00 | 11, 00 |
| 11 | 25 | -9, 00 | 13, 00 |

Fees = 3.

8 > Fees

fees = 3

2 + 15

6

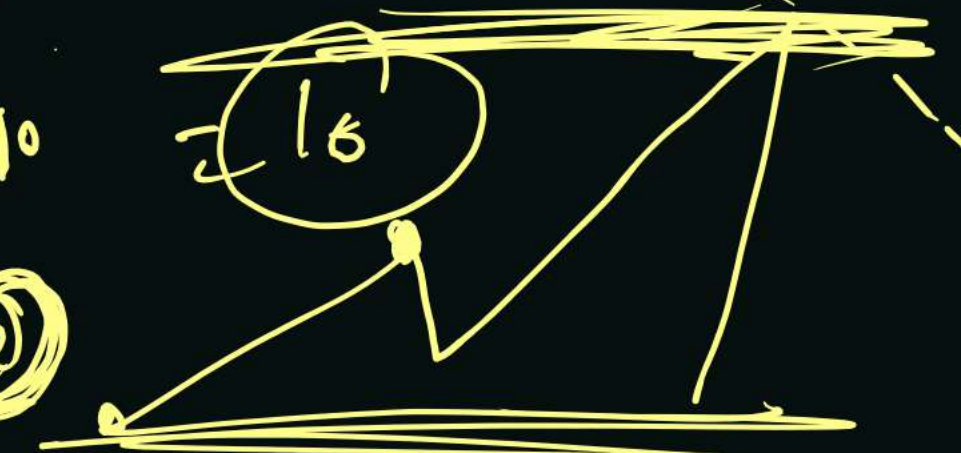
3

7

10

16

2



fees = 3

10 15 16 20

10 15 9

10 15 9

Day. Price

0 10

1 15

2 14

3 20

Profit
after Buying today

-10 60

-10 60

-10 60

-10 60

Profit
after Selling today

0

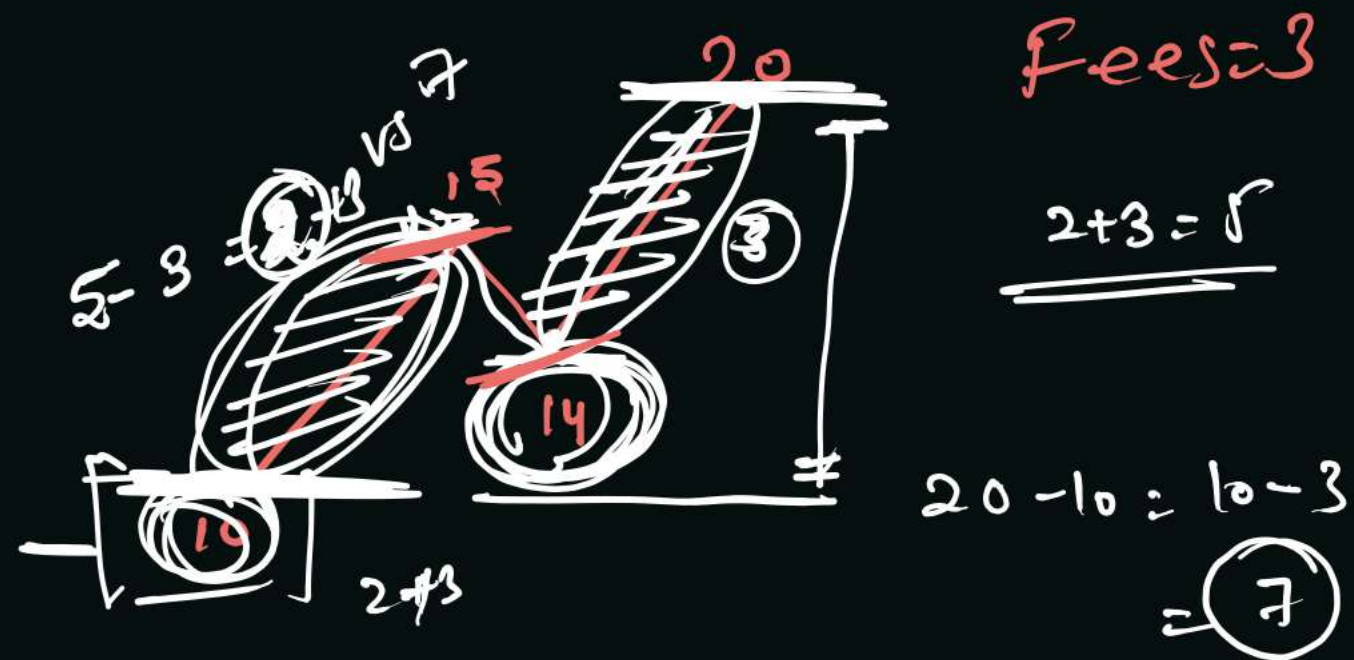
0

2 60 81

2 60 81

7 60 83

Fees=2



86