

Group Member:

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GitHub repository link: [https://github.com/eddiezgq/Final\\_Project\\_Stock\\_Profit\\_Maximation](https://github.com/eddiezgq/Final_Project_Stock_Profit_Maximation)

## 4 Milestone 1: Understanding the problems-solutions

### 4.1 Problem 1

Output:

(1, 2, 5, 15)

Explanation: Choosing the first stock (1-based indexing). Buying it in day 2nd day and selling it on the fifth day (1-based indexing), yields the maximum profit of 15 (sell price 16 minus buy price 1).

### 4.2 Problem 2

Output:

[(1, 3, 5), (2, 1, 3), (4, 1, 2)]

Explanation: Performing at most 3 transactions, selling the first stock on the 5th day after buying on 1st day, 2nd stock selling on the 3rd day buying on 1st day, 4th stock selling on 2nd day buying on 1st day yields the maximum profit of 100 (transaction 1:  $50 - 15 = 35$ , transaction 2:  $30 - 10 = 20$ , transaction 3:  $50 - 5 = 45$ )

### 4.3 Problem 3

Output:

[(3, 1, 3), (2, 6, 7)]

Explanation: To achieve the maximum profit, buy 3rd stock on day 1, sell it on day 3. buy 2nd stock on day 6 and sell it on day 7 adhering to 2 days waiting period. yields the maximum profit of 11 (transaction 1:  $9 - 5 = 4$ , transaction 2:  $8 - 1 = 7$ )

PROJECT TITLE	Final Project	COURSE NAME	COP4533
PROJECT MANAGER	Guoqing Zhang	DATE	6/15/25



2.5	TODO	Guoqing Zhang	6/16/25	7/20/25	4	0%				
3	<b>Milestone 3: Algorithm Implementation</b>	Guoqing Zhang	7/21/25	8/3/25	14	0%				
4	<b>Presentat ion</b>	Guoqing Zhang	7/29/25	8/3/25	4	0%				