Lab Task - Trading Agent for Smartphone Inventory Management:

One has to develop a trading agent for Smartphone Inventory Management. There will be two or more controllers (E.G. "Price Monitoring Controller", "Inventory Monitoring Controller", "Ordering Controller" etc.). Various rules and other details are given below

Percepts:

The agent receives two percepts:

- **Price:** The current price of a specific smartphone model.
- **Amount in Stock:** The quantity of smartphone models available in the store.

Decision Process:

- The agent's goal is to optimize stock levels while minimizing costs.
- It must decide whether to order more smartphones and, if so, how many to order.

Decision Rules:

- If the price of the smartphone drops significantly (indicating a deal or promotion), the agent considers ordering more units.

Threshold: Let's say the threshold is a 20% discount from the average price.

- If the amount in stock falls below a certain level (e.g., 10 units), the agent prioritizes restocking.
- Otherwise, the agent decides not to place an order.

Commands/Actions:

- If the smartphone price is below the threshold (20% discount) and the stock level is not critically low, the agent orders a specific quantity (let's call it tobuy).

Example: If the smartphone price drops to 500 BDT (from an average of 600 BDT) and there are 20 units in stock, the agent might decide to order 15 more units.

- If the stock level is critical, (e.g., less than 10), the agent orders a minimum quantity (e.g., 10 units).

- Otherwise, if neither condition is met, the agent does not place an order (i.e., tobuy = 0).

Submission

- Submit the GitHub link of the code.
- The code should full fill all the conditions specified in Task 1 and generate a graph as shown in example.