The main inspiration came from observing:

* Occasional widening of the spread which presents arbitrage-like opportunities.
* The fact that market depth offers exploitable inefficiencies, especially when the spread becomes wider than normal.

These observations suggested a simple yet effective **market-making approach**, focusing on liquidity provision during high spreads.

Core logic and idea:

1. **Spread Check**: The algorithm first calculates the spread between the best bid and best ask prices.
2. **Mid-Price Anchor**: If the spread exceeds a threshold (here, 1), the strategy defines a buy price below and a sell price above the mid-price, aiming to capture the spread profit.
3. **Position Management**: The size of each order is adjusted based on the current position to avoid overexposure (max cap of ±50 units).
4. **Order Submission**: Two limit orders are placed:  
   * A **buy** order below mid-price.
   * A **sell** order above mid-price.

This logic ensures the trader buys low and sells high, capitalizing on spread reversion.

Experiments:

* **Spread Threshold Testing**: We experimented with various spread thresholds (0.5, 1.0, 1.5) and found that a value >1 reduced overtrading and improved profitability per trade.
* **Order Volume Adjustments**: A dynamic position-based sizing helped reduce risk compared to fixed-size orders.