Prediction Algorithm Explanation

The prediction algorithm is a simple rule-based model that forecasts the next three stock price values based on the last 10 consecutive data points. Here's a breakdown of the prediction logic:

# 1. First Predicted Value (n+1):

The algorithm looks at the last 10 stock price values and selects the second-highest value from this set.  
The reason for choosing the second-highest value is to avoid extreme values (like a possible outlier) but still use a relatively high price for prediction, assuming the stock might continue its trend near recent peaks.

# 2. Second Predicted Value (n+2):

The second predicted value is computed by taking the midpoint between the last actual stock price (n) and the first predicted value (n+1).  
Formula: n+2 = n + (n+1 - n) / 2  
This approach assumes that the price will move closer to the predicted peak (n+1) but at a slower pace, creating a more gradual price increase or decrease.

# 3. Third Predicted Value (n+3):

The third predicted value is calculated by taking the midpoint between n+1 and n+2, further smoothing the transition.  
Formula: n+3 = n+2 + (n+1 - n+2) / 4  
This step assumes that the change in stock price will continue to slow down, simulating a flattening of the price trend as it stabilizes around n+1.

# Rationale:

The algorithm is designed to be simple and uses the second-highest value to capture a potential near-future peak without reacting too strongly to the highest (and possibly anomalous) price.  
By calculating the second and third predicted points as progressively smaller steps towards n+1, it assumes that stock prices tend to stabilize after a strong movement. This reduces the likelihood of extreme future predictions and provides a smoothing effect, predicting more moderate changes.