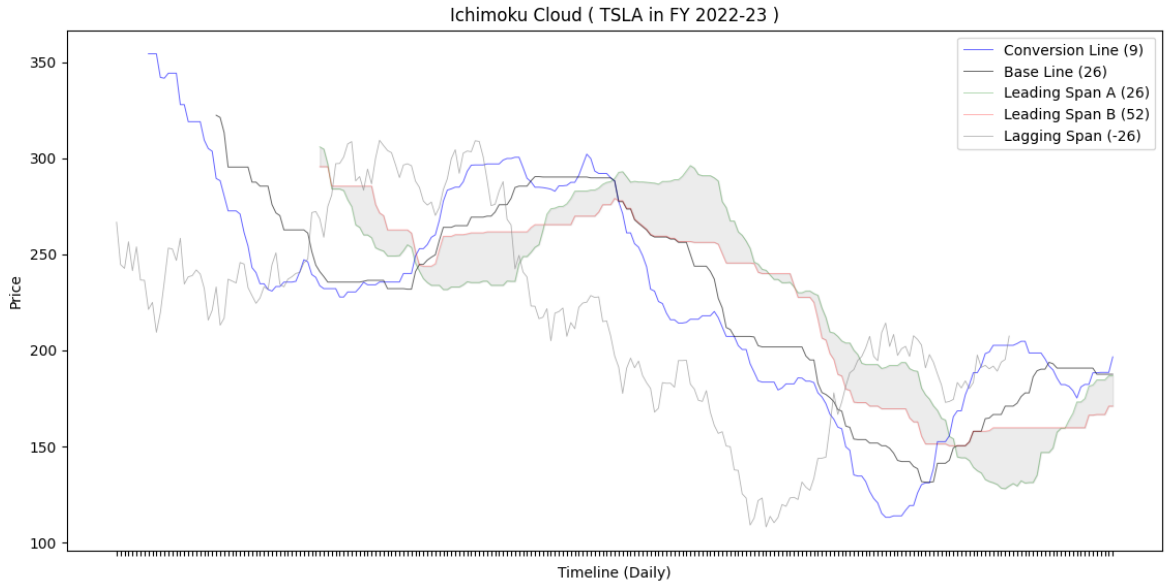
InvestX-Assignment 1

Ichimoku Cloud

Momentum indicator



Ichimoku Cloud, also known as Ichimoku Kinko Hyo, is a popular technical analysis tool used to identify potential trend reversals, gauge momentum, and provide key support and resistance levels. It consists of several lines that create a "cloud" on a price chart. Let's explore each line and its calculations:

1. *Tenkan-sen (Conversion Line):* This line represents the short-term trend. It is calculated by averaging the highest high and the lowest low over a specific period, typically nine periods. For example, if we take the closing prices of the last nine periods, we sum the highest high and the lowest low and then divide it by two.

2. *Kijun-sen (Base Line):* This line represents the medium-term trend. It is calculated by averaging the highest high and the lowest low over a longer period, usually 26 periods. The calculation process is similar to the Tenkan-sen.

3. *Senkou Span A (Leading Span A):* This line forms the first boundary of the cloud and represents the midpoint between the Tenkan-sen and the Kijun-sen. It is plotted ahead of the current price by the number of periods equivalent to the sum of the Tenkan-sen and the Kijun-sen periods (e.g., 9 + 26 = 35 periods).

4. *Senkou Span B (Leading Span B):* This line forms the second boundary of the cloud and represents the long-term trend. It is calculated by averaging the

highest high and the lowest low over an extended period, typically 52 periods, and then plotted ahead by the same number of periods as Senkou Span A.

5. *Chikou Span (Lagging Span):* This line represents the current closing price plotted backward by the number of periods equivalent to the Kijun-sen. In other words, it shows the current price relative to historical prices.

The Ichimoku Cloud provides several signals and insights to traders:

1. Trend Identification: If the price is above the cloud, it suggests a bullish trend, whereas if the price is below the cloud, it indicates a bearish trend.

2. Cloud Thickness: The thicker the cloud, the stronger the support or resistance level.

3. Crossover Signals: When the Tenkan-sen crosses above the Kijun-sen, it generates a bullish signal, and vice versa for a bearish signal.

4. Confirmation of Trend Reversals: The Chikou Span crossing the price from below or above can confirm potential trend reversals.

Traders use the Ichimoku Cloud to gain a holistic view of the market by analyzing multiple lines simultaneously. It helps them identify potential entry and exit points, support and resistance levels, and overall market trends. However, like any technical analysis tool, it should be used in conjunction with other indicators and fundamental analysis to make informed trading decisions.

The explanation for the parameters taken:

The calculations for each line of the Ichimoku Cloud are as follows:

1. Tenkan-sen (Conversion Line):
   - Calculation: (Highest High + Lowest Low) / 2
   - Period taken: 9 periods (can be adjusted based on preference)
   - Why period 9 was taken: Conversion line Reflects the short-term trend and provides immediate support and resistance levels, so we have to take lower periods if we decrease it further it will move with the price not showing any significance or if we increase the period it lags the price action and we will be unable to detect any short time trend in the market.

2. Kijun-sen (Base Line):
   - Calculation: (Highest High + Lowest Low) / 2
   - Period used: 26 periods (can be adjusted b/w 20-30)

- Why was 26 period taken: Base line represents the medium-term trend and offers stronger support and resistance levels compared to the Tenkan-sen.
Now if take a lower period that implies it will start showing a short-term trend of the market but we have a conversion line for that and if we increase it It will lag so much.

3. Senkou Span A (Leading Span A):
- Calculation: (Tenkan-sen + Kijun-sen) / 2
- Plotted forward by the number of periods equivalent to the sum of Tenkan-sen and Kijun-sen.
- Interpretation: Forms the first boundary of the cloud and helps identify potential areas of support and resistance in the future.

4. Senkou Span B (Leading Span B):
- Calculation: (Highest High + Lowest Low) / 2
- Period used: Typically 52 periods
- Plotted forward by the number of periods equivalent to Senkou Span A.
- Interpretation: This represents the long-term trend and provides stronger support and resistance levels than Senkou Span A. To provide a longer trend we need to use a longer period as we see earlier Conversion line (9) for the short trend, Base line(26) for the mid-term trend and now we use this (52 periods) for long-term trends and good support and resistance.

5. Chikou Span (Lagging Span):
- Calculation: Current closing price plotted backward by the number of periods equivalent to the Kijun-sen.
- Interpretation: Reflects the current closing price in relation to historical prices and can confirm potential trend reversals when it crosses the price from below or above.

These calculations aim to capture different aspects of price behavior and trend analysis. The Ichimoku Cloud provides traders with a comprehensive view of the market, including potential trend directions, support and resistance levels, and market sentiment by plotting these lines on a price chart.