1. **BTC Opening Price:**

The price of Bitcoin at the start of the day.

2. **BTC Closure Price:**

The Price of Bitcoin at the end of the day.

3. **BTC High and Low on the Same Day:**

The highest and lowest prices at which Bitcoin was traded during a single day.

4. **BTC Market Cap:**

The total market value of all Bitcoin in circulation. It is calculated by multiplying the current Bitcoin price by the total number of Bitcoins in circulation.

5. **Days from Halving:**

The number of days since the last Bitcoin halving event. Halving is when the reward for mining new blocks is halved, which happens approximately every four years.

6. **Days to Halving:**

The number of days remaining until the next Bitcoin halving event.

7. **Closest Support Level and its Strength:**

Definition:

Support Level: A support level is a price point where a downtrend can be expected to pause due to a concentration of demand. As the price of an asset drops, demand for the asset increases, forming the support line. It is the level at which buyers tend to enter the market in sufficient numbers to take control from the sellers.

Strength of Support determined be several factors:

- **Number of Touches:** The more times the price has touched and rebounded from this level, the stronger it is considered.
- **Volume at Level:** High trading volume near the support level indicates strong interest in the asset at that price point.
- **Duration:** The longer a support level has held, the more significant it becomes.
- **Price Reversals:** If major price reversals have occurred at the support level, it indicates a strong level.

Calculation Method (recommended):

Trendlines: Drawing a trendline connecting multiple low points can help identify a support level.

Fibonacci Retracement Level: These levels are also used to predict resistance points.

8. **Closest Resistance Level and its Strength:**

Definition:

Resistance Level: A resistance level is a price point where an uptrend can be expected to pause due to the concentration of selling interest. As the price of an asset rises, selling interest increases, forming the resistance line. It is the level at which sellers tend to enter the market in sufficient numbers to take control from the buyers.

Strength of Resistance, Calculation Methods: Similar to those for support levels.

9. **Average RSI (or Strength Indicator) on the Same Day:**

Definition: The Relative Strength Index (RSI) I a momentum oscillator that measures the speed and change of price movements. RSI oscillates between o and 100 and is used to identify overbought or oversold conditions in a market. The RSI is typically calculated using a 14-day period, but it can be adjusted based on specific requirements.

Steps to Calculate RSI:

- **Upward Changes (U):** If today's price is higher than yesterday's, the difference is considered an upward change.
- **Downward Changes (D):** If today's price is lower than yesterday's, the difference is considered a downward change.

- **Average Gain:** $\frac{1}{14}\sum_{i=1}^{14} U_i$

- **Average Loss:** $\frac{1}{14}\sum_{i=1}^{14} D_i$

- **Calculate the Relative Strength (RS):**

RS = Average Gain / Average Loss.

- **Calculate the RSI:**

RSI = $100 - \left(\frac{100}{1+RS}\right)$

For calculations based on the same day, instead of number of days, we can use timeframes.

10. Net Whale Transactions in BTC:

Definition: Net Whale Transactions in BTC refers to the net amount of Bitcoin transactions made by large holders, often referred to as “whales”, These transactions are significant because whales can influence market prices with their buying and selling activities. The net value is calculated by subtracting the amount of Bitcoin transferred from exchanges to wallets from the amount transferred from wallets to exchanges.

Whales – typically addressed to accounts with over 1000 BTC.

Use blockchain explorer tools (Blockchain.com, Blockchair, etc.) to monitor whale and exchange transactions.

- **Glassnode:** Offers in-depth on-chain data, including metrics specifically related to whale activities.
- **CryptoQuant:** Provides detailed data on exchange flows, whale transactions, and more.
- **Whale Alert:** Tracks large transactions across multiple blockchains and provides alerts for significant transfers.

Some exchanges may provide API (Application Programming Interface) access to transaction data, which can be used to monitor inflows and outflows from whale addresses.

11. **S&P 500 Average Daily Price:**

The average price of the S&P 500 index, which represents the performance of 500 large companies listed on stock exchange in the US, on the same day.

12. **US Interest Rate the Same Day:**

The federal funds rate or another relevant interest rate set by the Federal Reserve on the same day.

13. **USD/Gold Average Price the Same Day:**

The average price of gold in US dollars on the same day. This shows the value of gold relative to the US dollar.

14. Historical Volatility Index the Same Day:

Definition of Volatility:

Volatility represents the extent to which the price of an asset fluctuates over a specific period. It is typically measured by calculating the standard deviation or variance of returns.

Volatility is a statistical measure of the dispersion of returns for a given security or market index. In the context of Bitcoin (or any other asset), it refers to the degree of variation in the price over time.

Historical Volatility (Realized Volatility):

This is the volatility of past price movements, calculated over a particular historical period. It reflects the actual price changes that have occurred.

Calculation of Historical Volatility:

$$\sigma = \sqrt{\frac{1}{N-1}\sum_{i=1}^{N}\left(R_i - \overline{R}\right)^2}$$

Where:

- σ is the standard deviation (volatility).
- N is the number of observations. For daily volatility, commonly used: 252, 30, 90 days.
- R_i is the logarithmic return on day i.

  $$R_i = \ln\left(\frac{P_i}{P_i - 1}\right)$$

  Where P_i is the price on day i.

- $\overline{R}$ is the average return over the period

$$\overline{R} = \frac{1}{N}\sum_{i=1}^{N} R_i$$

The Historical Volatility Index measures the volatility of Bitcoin's price over a specified historical period, often represented as an annualized percentage.

15. **Breaking the EMA 50 of the Daily TF and Consolidating Above It / Breaking the EMA 200 of the Daily TF and Consolidating Below It (IRELEVANT):**

Indicates whether Bitcoin's price has crossed above the 50-day Exponential Moving Average (EMA) and is holding above it or crossed below the 200-day EMA and is holding below it. This can signal potential trend reversals or continuations.

16. **Nearest Liquidations on the Same Day:**

Definition: Liquidation in the context of cryptocurrency trading refers to the process by which a trader's leveraged position is forcefully closed by an exchange. This occurs when the trader's position falls below the required margin (the collateral needed to keep the position open). "Nearest liquidation on the same day" refers to the closest points within the day's trading activity where significant liquidations are likely to happen or have happened.

17. **BTC Hash Price:**

Definition: The BTC hash price is a metric used to determine the profitability of Bitcoin mining. It represents the revenue earned by miners per unit of computational power (hash rate) they contribute to the Bitcoin network.

Hash Rate: Is the measure of the computational power being used by the bitcoin Network to process transactions and mine new blocks. It is measured is hashes per second(H/s), terahashes per second (TH/s) or petahashes per second (PH/s).

The BTC hash price is calculated by dividing the total revenue generated by miners by the total network hash rate:

$$BTC\ Hash\ Price = \frac{Total\ Miner\ Revenue\ (BTC)}{Total\ Network\ Hash\ Rate\ (TH/s)}$$

Example: If the total daily revenue for miners is 900 BTC (from block rewards and transaction fees) and the network rate is 150 EH/s (exahashes per second), the hash price would be:

$BTC\ Hash\ Price = \frac{900\ BTC}{150{,}000{,}000\ TH/s} = 0.000006 \frac{BTC}{TH/s}$ per day.

18. **BTC Mining Price (Average):**

The average cost to mine one Bitcoin, including expenses like electricity, hardware and other operational costs.

19. **Greed/Fear Index:**

A sentiment indicator that measures the level of fear or greed in the market. High levels of fear can indicate potential buying opportunities, while excessive greed may signal that the market is due for a correction.

20. **Oil Price:**

The average price of crude oil on the same day, often represented by benchmarks like Brent Crude or WTI (West Texas Intermediate)

21. **BTC Dominance:**

Definition: BTC Dominance refers to the percentage of the total cryptocurrency market capitalization that is represented by Bitcoin. It provides insight into Bitcoin's relative market strength compared to the rest of the cryptocurrency market.

Calculation:

$$BTC\ Dominance = \left(\frac{Market\ Capitalization\ of\ Bitcoin}{Total\ Market\ Capitalization\ of\ All\ Cryptocurrency}\right) \times 100$$

- Market Capitalization of Bitcoin = Current price of Bitcoin × Total number of Bitcoins in circulation.
- Total Market Capitalization of All Cryptocurrencies = Sum of the market capitalization of all individual cryptocurrencies.

22. **ETH Price/Volume:**

Definitions:

ETH Price: The ETH price refers to the current market price of one Ethereum token (ETH). This price is determined by the supply and demand dynamics on cryptocurrency exchanges where ETH is traded.

ETH Volume: The ETH volume refers to the total amount of Ethereum that has been traded within a specific period, typically a day. It includes all buy and sell transactions that occur on various exchanges.