## Crypto Currency Data Analysis A cryptocurrency, or crypto is a binary data designed to work as a medium of exchange wherein individual coin ownership records are stored in a ledger existing in a form of a computerized database using strong cryptography to secure transaction records, to control the creation of additional coins, and to verify the transfer of coin ownership. Some crypto schemes use validators to maintain the cryptocurrency. In a proof-of-stake model, owners put up their tokens as collateral. In return, they get authority over the token in proportion to the amount they stake. Description of the dataset 1. **open**: opening price 2. **high**: higher price of the day 3. **low**: lower price of the day 4. **volume**: volume of transaction on the given day 5. price: closing price of the day Few rows of Dataset date high low volume price symbol exchange **837636** 2021-09-12 2.278 2.423 2.22 250774.28 2.302 audio-usdt **837637** 2021-09-12 32967.260 33346.200 32400.00 2571640.50 33122.950 yfi-usd coinbase 156480.21 32986.990 **837638** 2021-09-12 33002.380 33347.540 32463.85 gemini **837639** 2021-09-12 32950.000 33325.000 32360.00 327118.65 33070.000 yfi-usd **837640** 2021-09-12 33026.000 33341.000 32484.00 72448.08 32942.000 yfi-usd kraken Missing value analysis date open high low volume price symbol exchange dtype: int64 Statistical Analysis of data <AxesSubplot:> - 1.0 0.0021 - 0.8 0.017 0.00033 0.017 0.017 - 0.6 0.017 0.0018 - 0.4 0.0021 0.00033 0.0018 0.0021 0.2 0.0021 open high low volume price Price have high correlation with high ,low and open. <AxesSubplot:ylabel='Count'> 800 symbol btc-usdt 700 btc-usd eth-usdt 600 500 400 · 300 200 100 20000 30000 40000 50000 10000 0.8 0.2 0.25 1.00 1.25 0.75 1.50 From the above diagrams we can see that the data is not normally distributed. Objectives/ Questions in mind: 1. which exchange company does more sales? 2. Is there any change in the price of different exchanges for different currencies 3. what are the top10 currencies? 4. Is there an increase in the price of currencies over the period of time? 5. weekly base, monthly and yearly base analysis of price 6. which month and days have more price and transactions **Top 10 priced symbol analysis** 1.5T 1T 0.5T btc-usdt eth-usdt btc-usd eth-usd bnb-usdt busd-usdt ada-usdt Itc-usdt doge-usdt xrp-usdt Here is the top 10 crypto currency symbols with respect to their trading volume. Which exchange is having more trading volumes? 3.5T ЗТ 2.5T 2T 1.5T 1T 0.5T binance okex coinbase bitfinex kraken bitstamp kucoin poloniex bittrex itbit liquid bitflyer huobi The most number of trades are made by 'Binance' followed by 'Okex'. Does the currencies have same price across multiple trading exchange? volume and price of 'btc\_usdt currency' 14B exchange bitfinex 12B 10B 8B volume bitstamp 6B binance 4B 2B 10k 20k 30k 40k 50k price No, they have different prices. For example, the btc\_usdt currency is sold at different price by different exchanges. The above diagram depicts it. Price and volume analysis. Is there any relation between the price and volume of currencies? volume and price of 'btc\_usdt currency' 14B symbol btc-usdt 12B 10B 8B volume 6B 4B 2B 10k 20k 30k 50k 60k price The volume is high when the price is ranging between 30k to 60k. after that it is showing a decreasing trend. volume and price of 'btc-usd currency' symbol btc-usd 4B 3.5B 3В 2.5B volume 2B 1.5B 1B 0.5B 10k 20k 30k 40k 50k 60k price We can see the volume is high when the price is ranging between 30k to 60k. after 60k it is showing a decreasing trend. volume and price of 'eth-usdt currency' 12B symbol eth-usdt 10B 8B volume 6B 4B 2B 1000 1500 2000 2500 3000 3500 4000 We can see the volume is high when the price is ranging between 2500 to 4000. after 4000 it is showing a decreasing trend. Is there a change in the price of currencies over the period of time? bnb-usdt btc-usd btc-usdt 40k eth-usdt Itc-usdt 30k xrp-usdt 20k Oct 2019 Jul 2020 Oct 2020 Jan 2021 Apr 2021 Jul 2019 Jan 2020 Apr 2020 Jul 2021 date 600k 500k 400k doge-usdt 300k 200k 100k Oct 2019 Jul 2020 Jul 2019 Jan 2020 Apr 2020 Oct 2020 Jan 2021 Apr 2021 Jul 2021 date From the above graphs, we can conclude that the price of all the currencies are increasing over the period of time, except doge-usdt Is there a change in volume of currencies over the period of time? 2.5B symbol ada-usdt bnb-usdt btc-usd 2B btc-usdt busd-usdt doge-usdt eth-usd 1.5B eth-usdt value ltc-usdt xrp-usdt 1B 0.5B Apr 2021 Oct 2019 Jul 2020 Oct 2020 Jan 2021 Jul 2021 Jul 2019 Jan 2020 Apr 2020 date This graph shows all the currencies volume are increasing rapidly till May 2021, but after that it decreases and not showing a high level increase. Month wise analysis of currencies. Month wise analysis of currencies 1e8 ltc-usdt busd-usdt doge-usdt ada-usdt btc-usdt eth-usdt xrp-usdt bnb-usdt btc-usd 11 From the above graph, we can see that more volume of the trades have happened during the month of April and May. After that is a decline in the volume over the months. Day wise analysis of currencies. Day wise analysis of currencies 3.5 3.0 2.5 eth-usdt eth-usd xrp-usdt bnb-usdt 1.0 btc-usd 0.5 0.0 24 25 26 15 17 18 19 22 23 This graph shows there was a spike of trading volume during the third week. Analysis of symbol btc-usdt. Time Series with Range Slider and Selectors-symbol:btc-usdt-volume 1m 6m YTD 1y all 14B 12B 10B 8B volume 6B 4B 2B Jul 2019 Jul 2020 Jan 2021 Jul 2021 Jan 2019 Jan 2020 date The volume is increasing steadly over the period of time and reaches the peak during july 2021. But after july it is showing a decreasing volume trend due to high price. In that case we can assume that people tend to buy more when there is a decrease in the price. Candle stick chart for open and closing price of btc-usdt.(1 year data) 60k 50k 10k Jan 2021 Jun 2021 Jul 2021 Aug 2021 Sep 2021 Feb 2021 Mar 2021 Apr 2021 Conclusion The main points of this cryptocurrency data analysis are: 1. The top 10 currencies in the market are btc-usd,btc-usdt,eth-usdt,doge-usdt,xrp-usdt,ltc-usdt,ada-usdt,bnb-usdt,busd-usdt etc. 2. Binance is the highest trading exchange in the market. 3. All exchanges are not trading the currencies for the same price. 4. The price and volume of trades was slowly picking up in the market from the year 2018 to 2020. But after that there was a sudden increase on both the price and volume and it continued till May 2021. 5. More trades happen during the month of May and June. 6. The highest trading day is during the third week of the month.