INNOMATICS®
RESEARCH LABS

INNOVATION. AUTOMATION. ANALYTICS

PROJECT ON

Cryptocurrency Analysis

About me

Name : Vidya Jadhav

- **Education : BE (Electronics and Communication)**

- **Why Data Science? :**
  - **In this field there are variety of skills is included**
  - **It opens door for every domain**
  - **In every project you will face new challenges**
  - **Research and development**

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Agenda

- Problem statement
- What is Cryptocurrency?
- Selected Currencies for analysis
- Web Scraping
  - Why web scraping is important?
  - Websites
  - Library Used
  - Data Cleaning
  - Final Dataset Summary
- Exploratory Data Analysis
  - Univariate Analysis
  - Bivariate Analysis
  - Multivariate Analysis
- Conclusion

Problem Statement

Exploring different currencies and analyzing how efficient they are

Comparing their prices with Bitcoin and Etherium

What is Cryptocurrency

- Any form of currency that is available virtually or digitally
- Satoshi Nakamoto introduced world first bitcoin on paper in a 2008 paper
- We can use cryptocurrencies to buy goods, gift cards, pay bills, make a donation and exchange it into cards
- Pros :
  - No Bank Fees
  - Anonymity
  - Accessibility

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Selected Currencies for Analysis

- **Bitcoin**
- **Ethereum**
- **Wrapped Bitcoin**
- **Lido Staked Ethereum**
- **Bitcoin Binance Chain Evolution Proposal 2(BEP2)**
- **Huobi Bitcoin**
- **yearn.finance**
- **Tether Gold**
- **renBTC**

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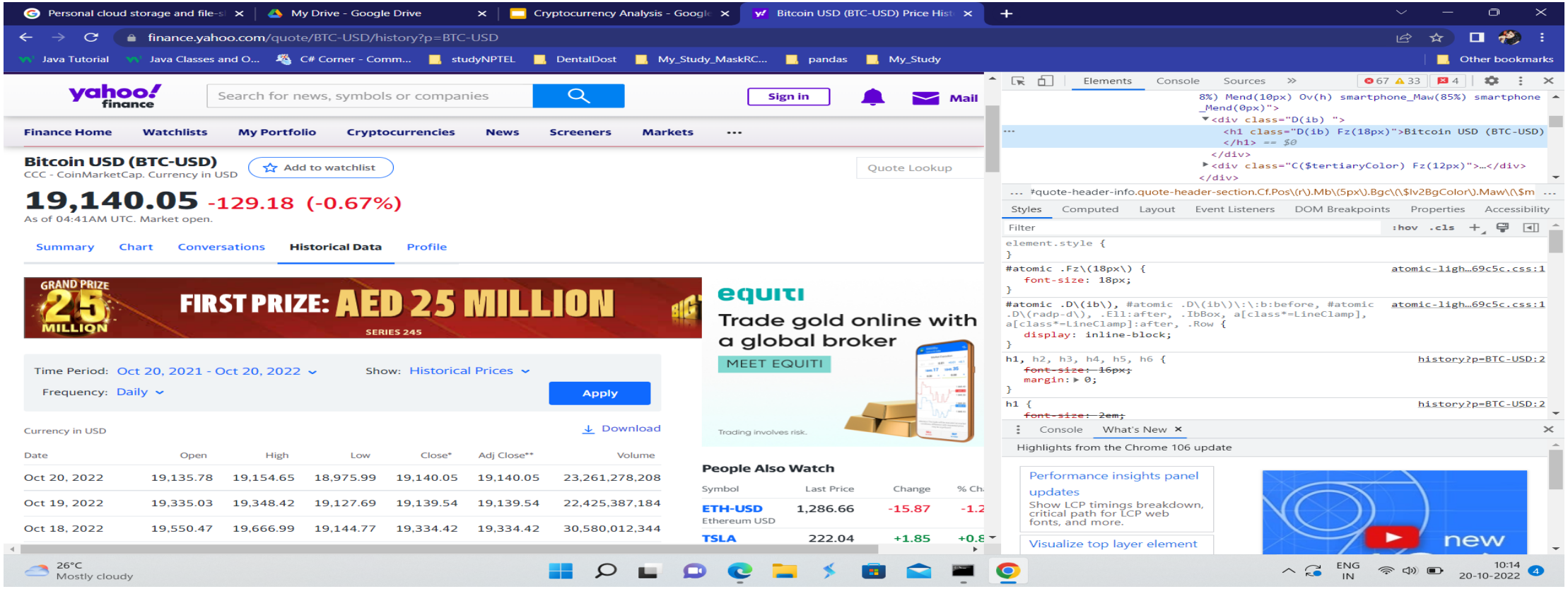
Web Scraping

Website :



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Web Scraping

Library Used :

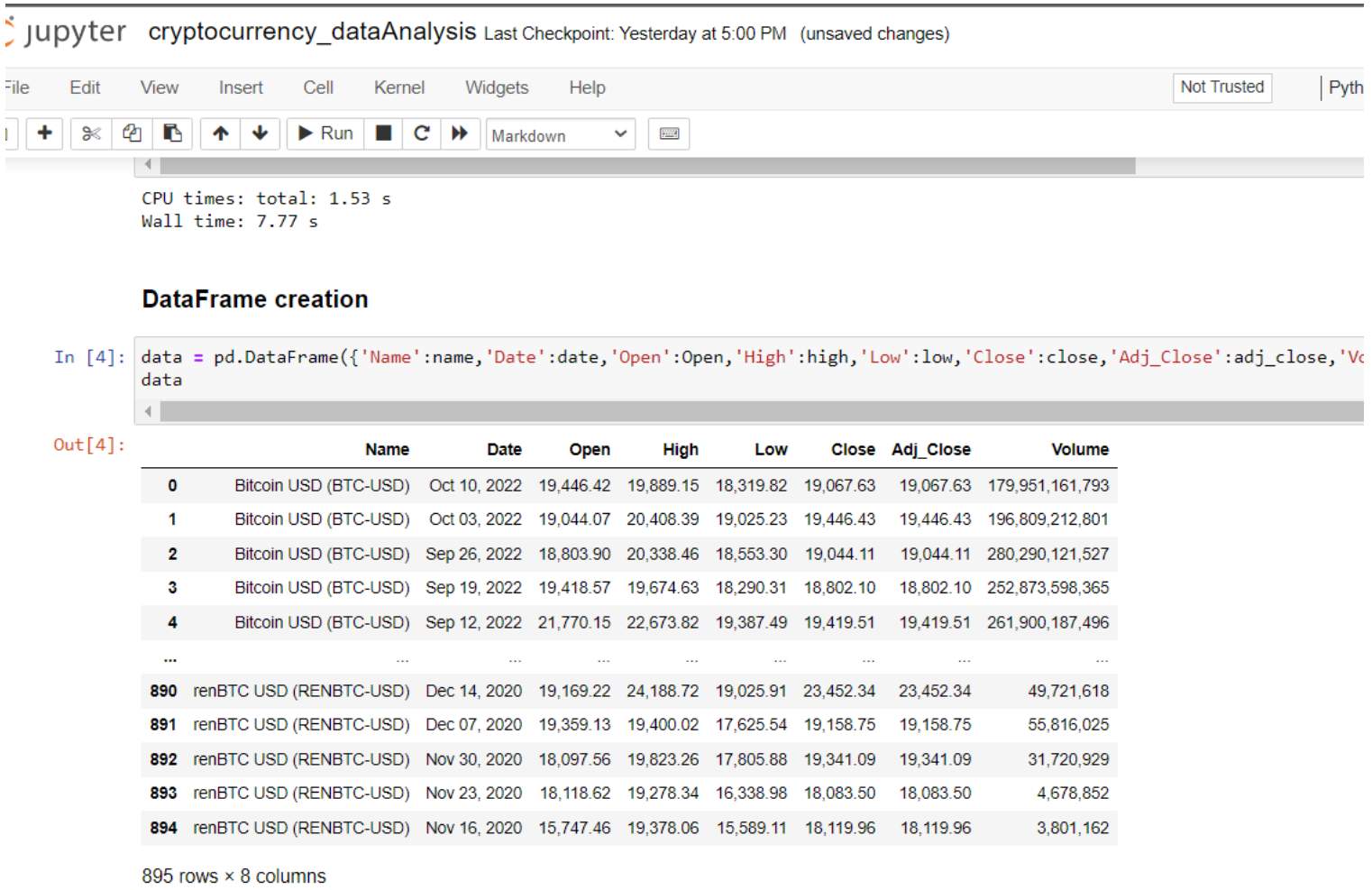
- requests
- BeautifulSoup
- pandas
- numpy
- matplotlib
- seaborn

Web Scraping

Data Cleaning :

Raw Data :

- Date Column
- Comma
- Data type



	Name	Date	Open	High	Low	Close	Adj_Close	Volume
0	Bitcoin USD (BTC-USD)	Oct 10, 2022	19,446.42	19,889.15	18,319.82	19,067.63	19,067.63	179,951,161,793
1	Bitcoin USD (BTC-USD)	Oct 03, 2022	19,044.07	20,408.39	19,025.23	19,446.43	19,446.43	196,809,212,801
2	Bitcoin USD (BTC-USD)	Sep 26, 2022	18,803.90	20,338.46	18,553.30	19,044.11	19,044.11	280,290,121,527
3	Bitcoin USD (BTC-USD)	Sep 19, 2022	19,418.57	19,674.63	18,290.31	18,802.10	18,802.10	252,873,598,365
4	Bitcoin USD (BTC-USD)	Sep 12, 2022	21,770.15	22,673.82	19,387.49	19,419.51	19,419.51	261,900,187,496
...	...	...	...	...	...	...	...	...
890	renBTC USD (RENBTC-USD)	Dec 14, 2020	19,169.22	24,188.72	19,025.91	23,452.34	23,452.34	49,721,618
891	renBTC USD (RENBTC-USD)	Dec 07, 2020	19,359.13	19,400.02	17,625.54	19,158.75	19,158.75	55,816,025
892	renBTC USD (RENBTC-USD)	Nov 30, 2020	18,097.56	19,823.26	17,805.88	19,341.09	19,341.09	31,720,929
893	renBTC USD (RENBTC-USD)	Nov 23, 2020	18,118.62	19,278.34	16,338.98	18,083.50	18,083.50	4,678,852
894	renBTC USD (RENBTC-USD)	Nov 16, 2020	15,747.46	19,378.06	15,589.11	18,119.96	18,119.96	3,801,162

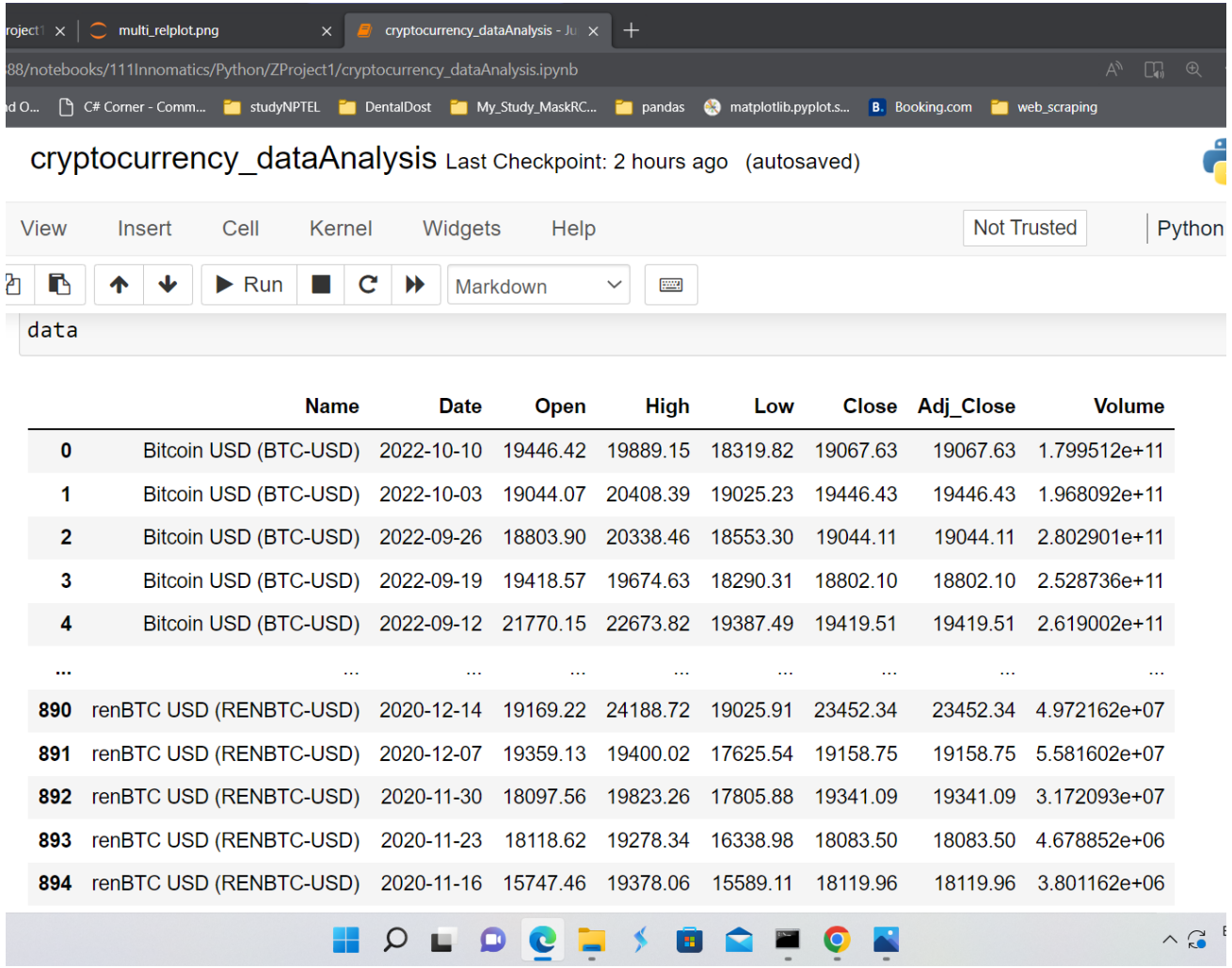
895 rows × 8 columns

Web Scraping

Data Cleaning :

Final Data Summary

- Shape 895X8
- Column description



	Name	Date	Open	High	Low	Close	Adj_Close	Volume
0	Bitcoin USD (BTC-USD)	2022-10-10	19446.42	19889.15	18319.82	19067.63	19067.63	1.799512e+11
1	Bitcoin USD (BTC-USD)	2022-10-03	19044.07	20408.39	19025.23	19446.43	19446.43	1.968092e+11
2	Bitcoin USD (BTC-USD)	2022-09-26	18803.90	20338.46	18553.30	19044.11	19044.11	2.802901e+11
3	Bitcoin USD (BTC-USD)	2022-09-19	19418.57	19674.63	18290.31	18802.10	18802.10	2.528736e+11
4	Bitcoin USD (BTC-USD)	2022-09-12	21770.15	22673.82	19387.49	19419.51	19419.51	2.619002e+11
...	...	...	...	...	...	...	...	...
890	renBTC USD (RENBTC-USD)	2020-12-14	19169.22	24188.72	19025.91	23452.34	23452.34	4.972162e+07
891	renBTC USD (RENBTC-USD)	2020-12-07	19359.13	19400.02	17625.54	19158.75	19158.75	5.581602e+07
892	renBTC USD (RENBTC-USD)	2020-11-30	18097.56	19823.26	17805.88	19341.09	19341.09	3.172093e+07
893	renBTC USD (RENBTC-USD)	2020-11-23	18118.62	19278.34	16338.98	18083.50	18083.50	4.678852e+06
894	renBTC USD (RENBTC-USD)	2020-11-16	15747.46	19378.06	15589.11	18119.96	18119.96	3.801162e+06

Exploratory Data Analysis (EDA)

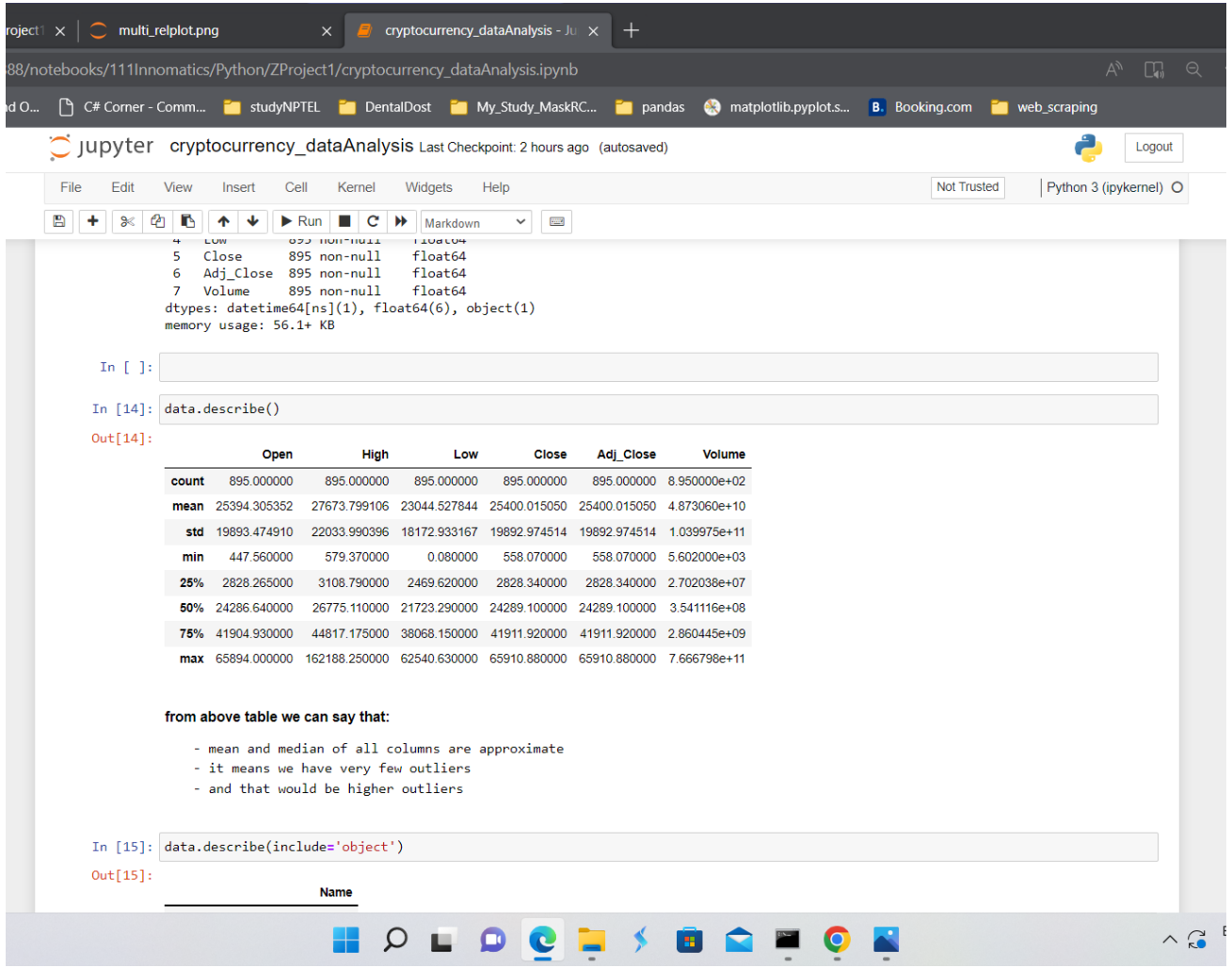
- **Definition :**

  an approach to analyse the data using statistical and graphical techniques

- **Types :**
  - Univariate Analysis
  - Bivariate Analysis
  - Multivariate Analysis

Univariate Analysis

- Higher outliers are present
- Standard Deviation is high so data spread out is more
- Mean and median
- Higher outliers present in High and Volume column



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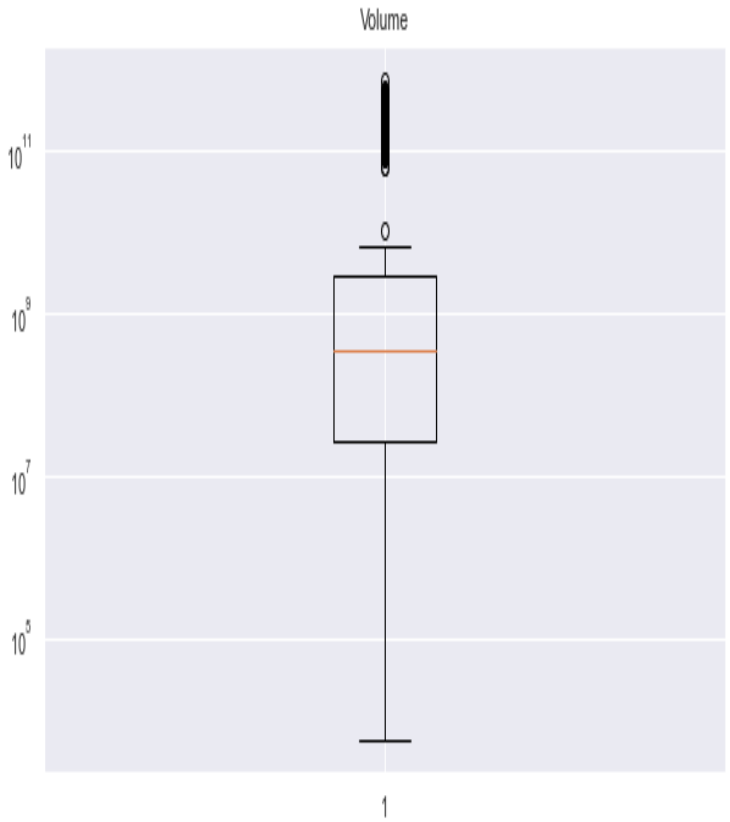
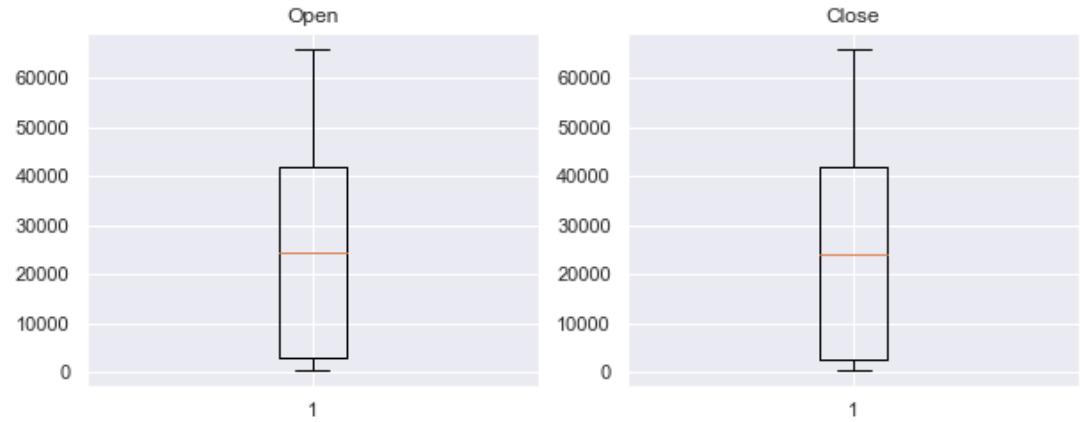
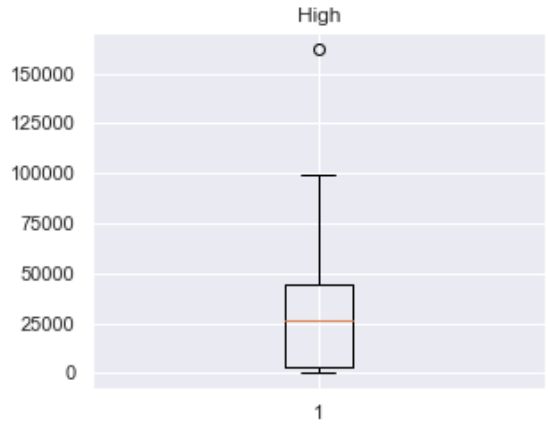
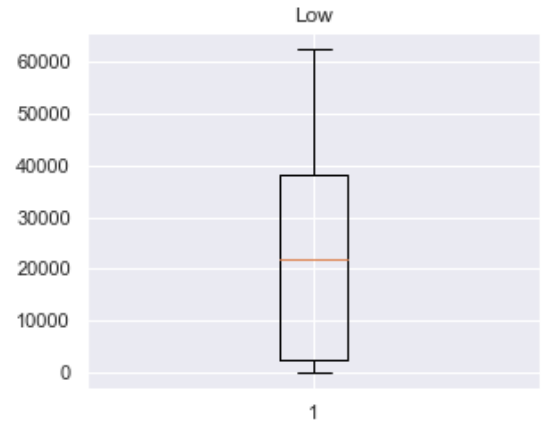
Univariate Analysis









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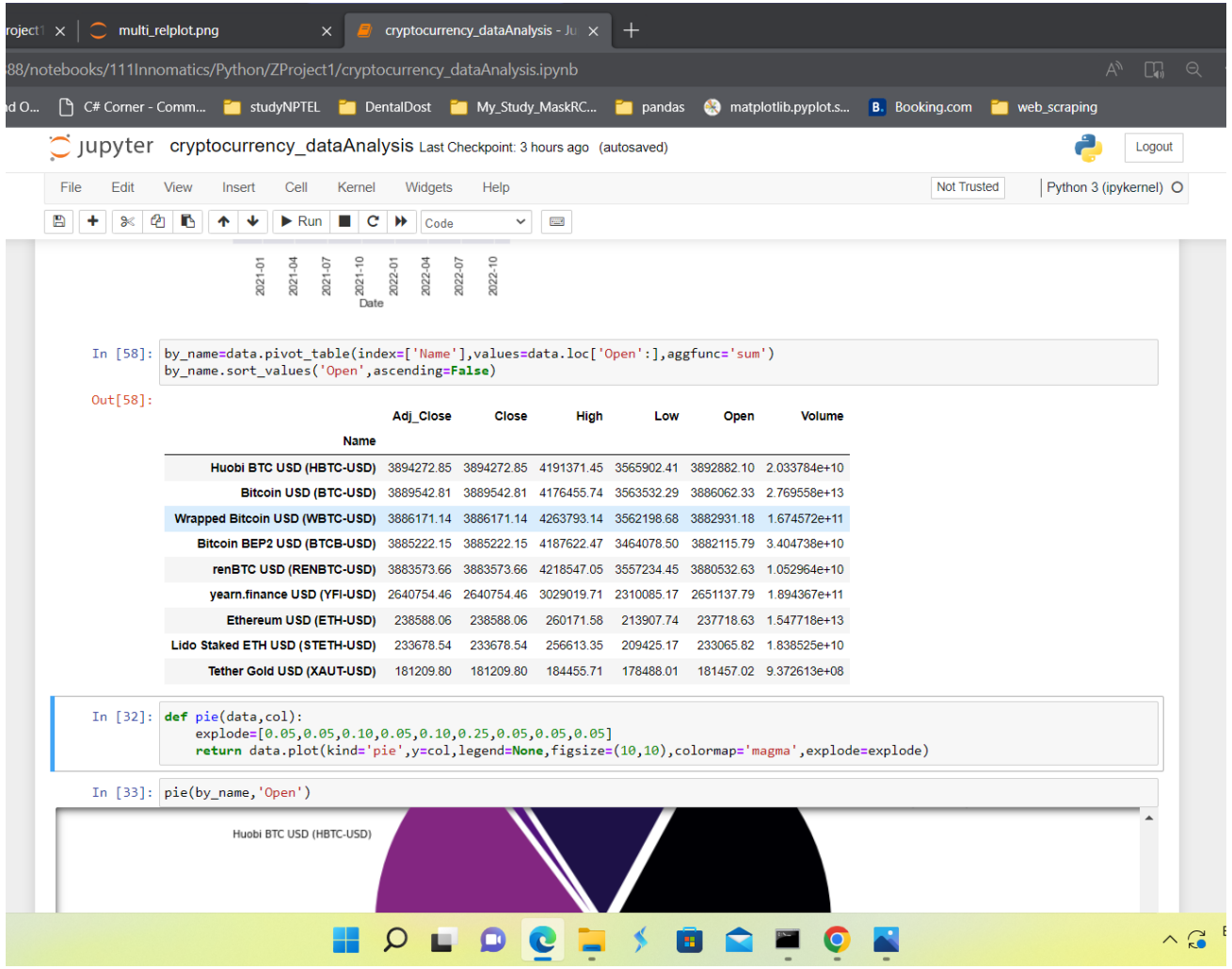
Bivariate Analysis

- There are 5 coins having open price above 35000$
- Tether Gold price is less than 2000$
- Most trading is happened in Bitcoin and Ethereum



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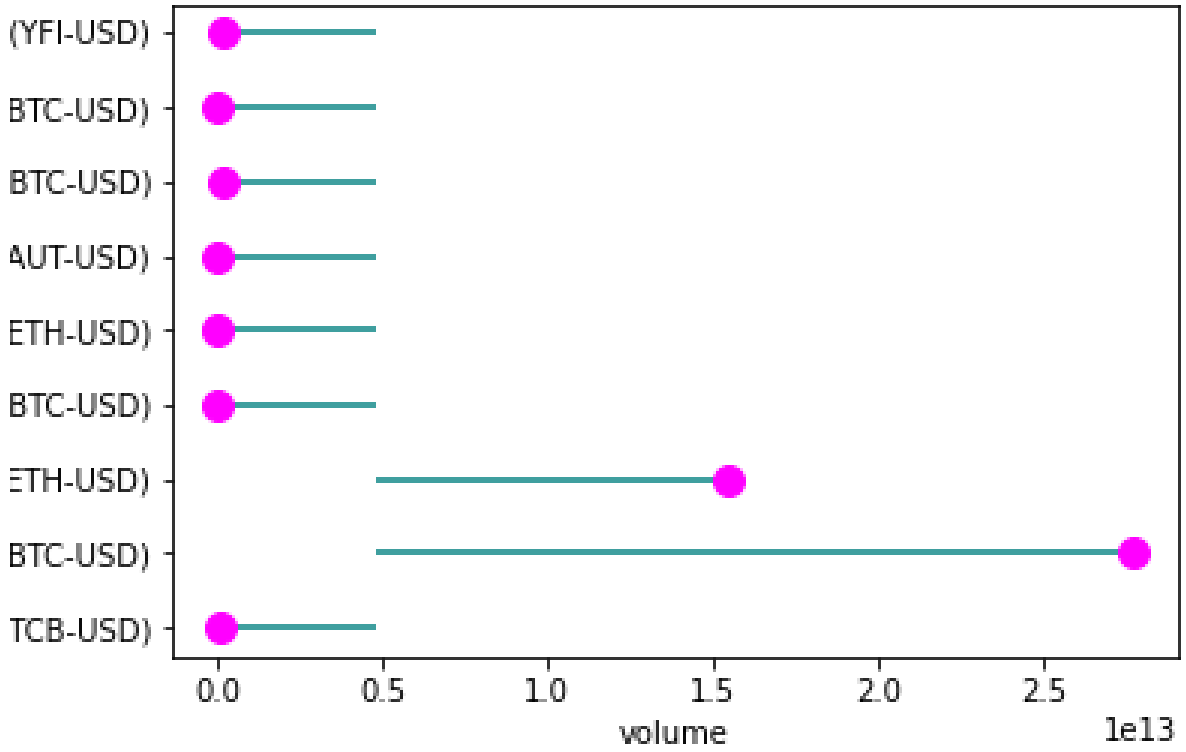
Bivariate Analysis

- We can observe that Bitcoin and Ethereum are the most famous coins for trading



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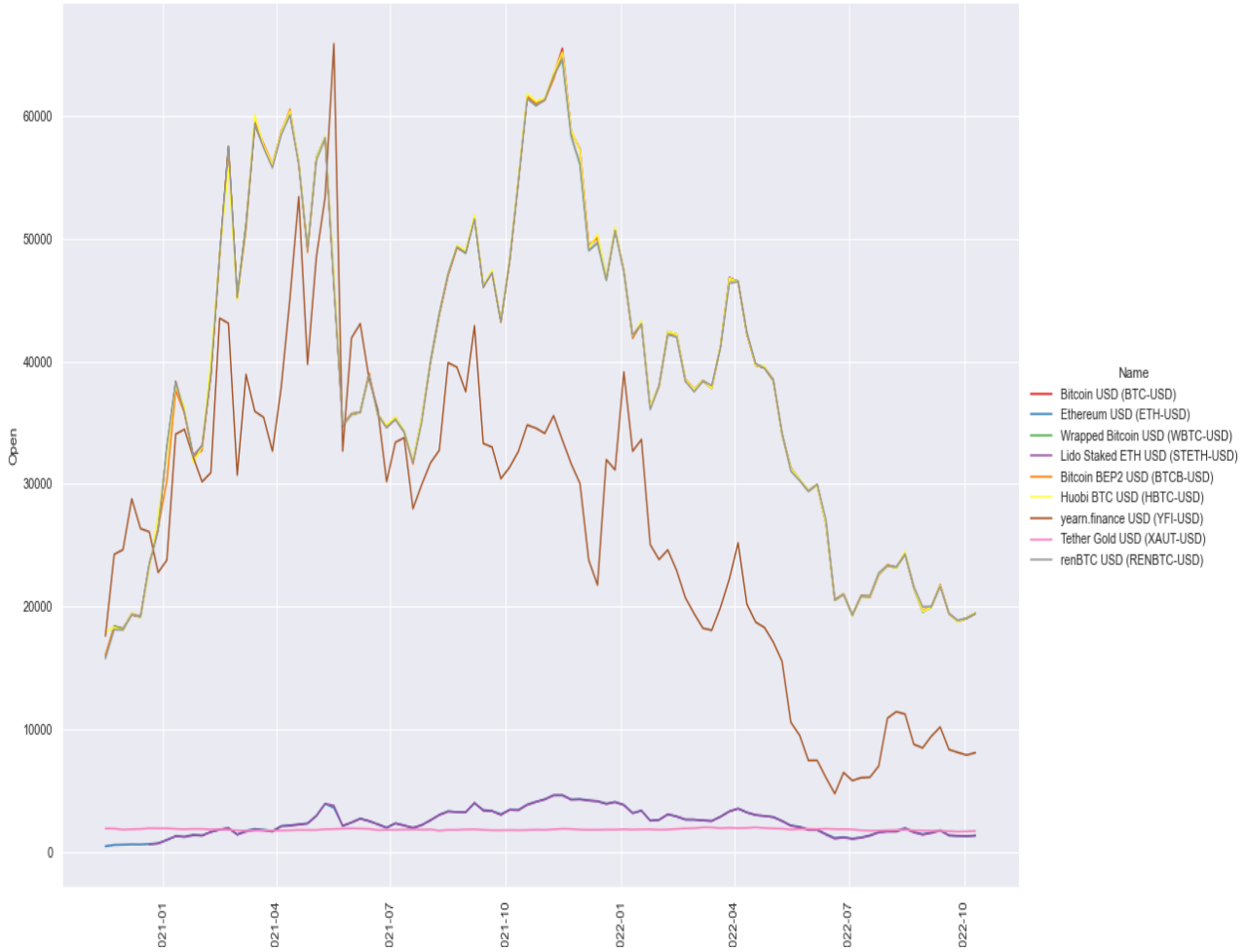
Multivariate Analysis

- Here we are observing open prices for each coin over the time period of November 2020 to October 2022
- Volatile nature and Non volatile nature
- Coins lies under volatile nature
- Coins lies under non volatile nature



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Conclusion

- Ethereum, Lido and Tether Gold are non-volatile coins
- If you are interested in stable and safe investments then you should prefer non-volatile coins.
- We can observe that renBTC and Huobi are also good investments
- You should keep patience when you are investing volatile coins

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THANK YOU

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