Indodax Technical Test

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Dear Recruitment Team

Here are the answers from the Technical test given to me.

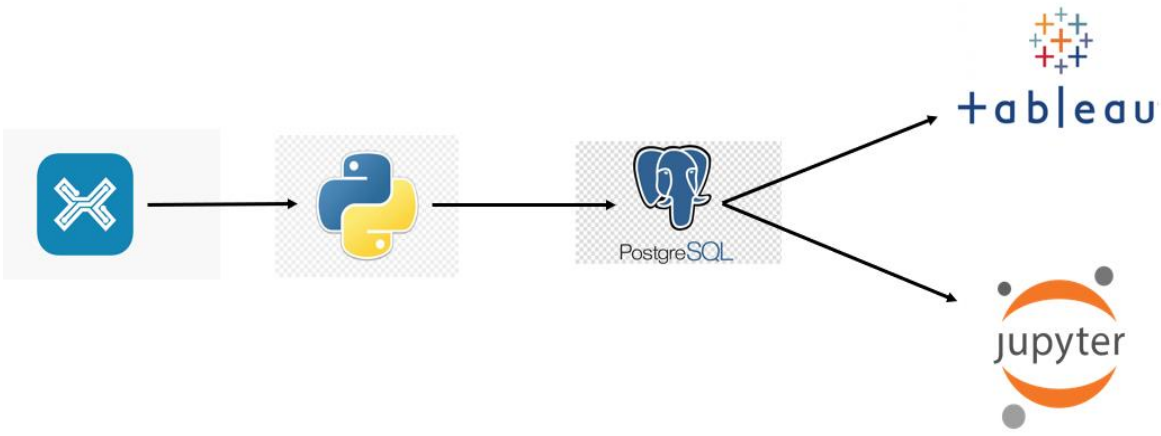
TASK:

Build a graph/chart analysis based on the details below:

- `All data needed for this assignment can be found using Indodax Public API through links below`
  https://github.com/btcid/indodax-official-api-docs/blob/master/Public-RestAPI.md

  The flow:

  1. Parsing data from the Indodax Public REST API using Python.
  2. Save parsed data to PostgreSQL database.
  3. Import and cleansing the data from PostgreSQL to Jupyter Notebook to be analyzed and visualized.
  4. Connect the data from postgreSQL to Tableau.



- Calculate the changes in prices of Cryptocurrency within the last 24 hours, please indicate using percentage (results can be positive or negative)

  The data that I use comes from the API https://indodax.com/api/trades and I limit starting on May 7, 2020 at 18:00 to May 8 at 18:00 (UTC + 7).

  The result is:

  ```
  Percentage of Increase in Selling Price  :  0.0047532854065206 36 %
  Percentage of Increase in Purchase Price :  0.0040293462043091 31 %
  ```

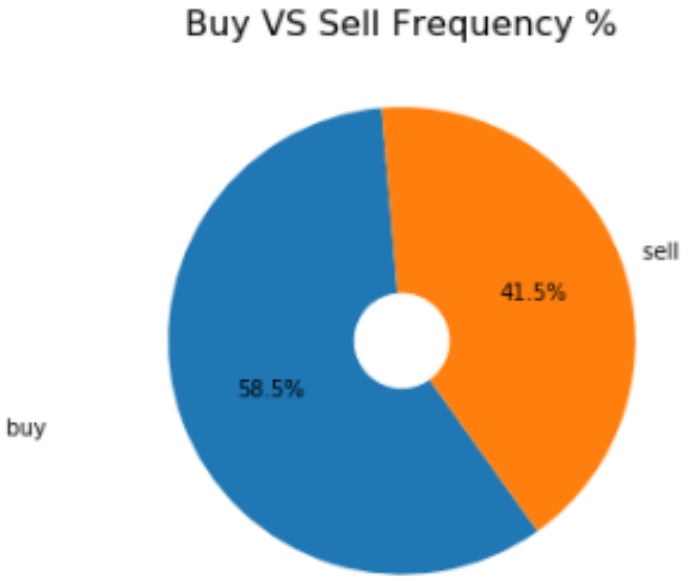
- What is the average trading volume within one day for one of the pair?

  I tried to break it down into 3, i.e.:

  ```
  Average Trading Volume          :  0.07101681291263795
  Average Trading Volume(Buy)     :  0.12145172965477248
  Average Trading Volume(Sell)    :  0.17101475168300684
  ```

- Provide a conclusion from your finding

  First of all, I try to compare between Buy and Sell. It turns out that the frequency of purchases on May 7, 2020 at 18:00 to May 8 at 18:00 is higher than sales. The percentage of 58.5% vs. 41.5%.

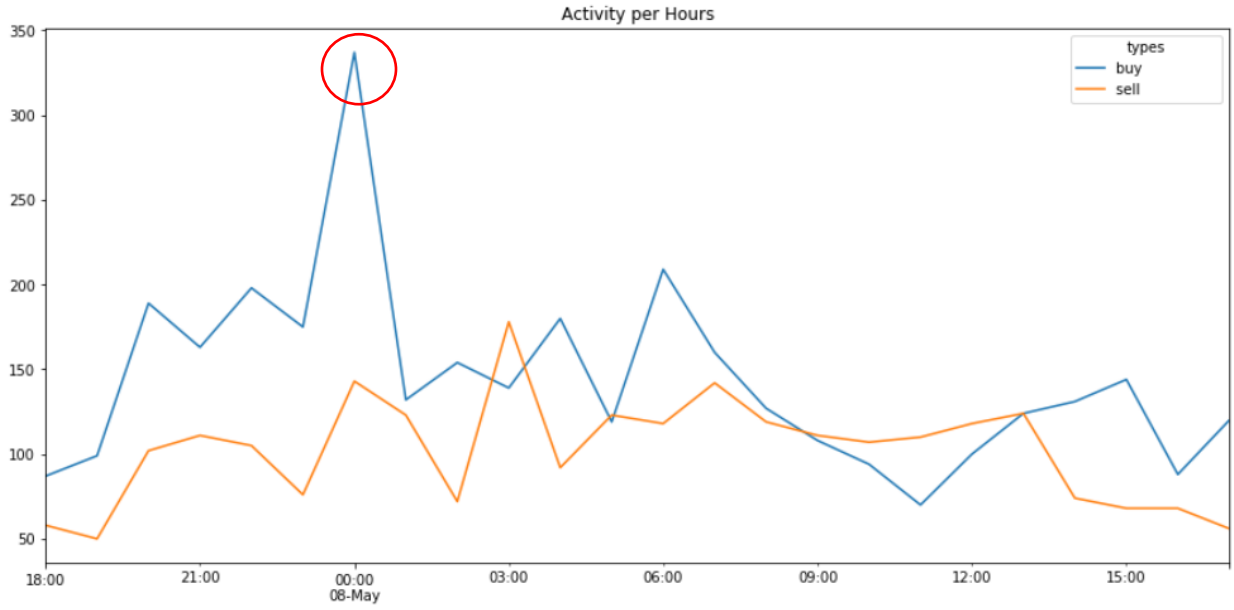


	price	amount	trx_value
count	3447.000000	3447.000000	3447.000000
mean	145734951.552074	0.055030	8036228.281471
std	2670213.676040	0.172610	25365569.958891
min	139503000.000000	0.000009	1269.540500
25%	143280000.000000	0.001190	175627.250230
50%	146445000.000000	0.007138	1038312.528120
75%	147700000.000000	0.029901	4391848.383195
max	149990000.000000	3.044742	456665586.874200

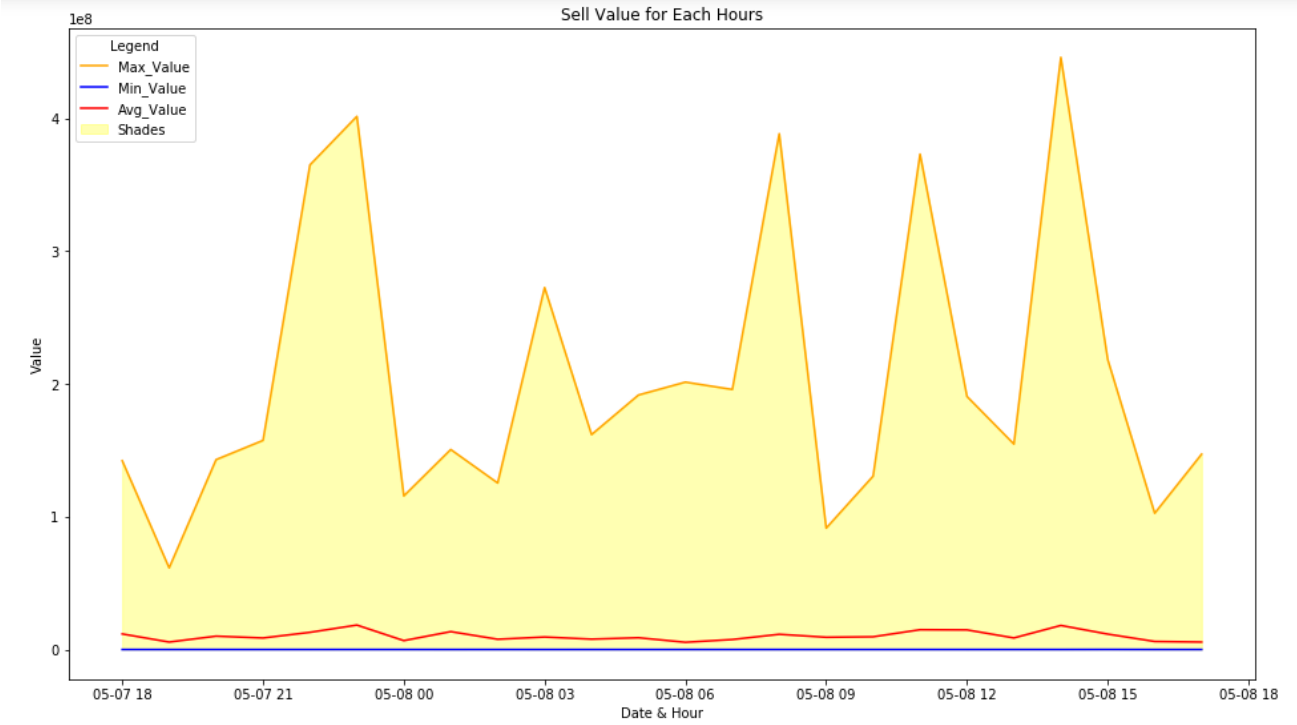
	price	amount	trx_value
count	2448.000000	2448.000000	2448.000000
mean	146134535.947712	0.069418	10132557.805448
std	2527267.797477	0.206091	30084325.113030
min	139500000.000000	0.000010	1424.405640
25%	145305000.000000	0.001211	177118.342403
50%	146724500.000000	0.007153	1040867.279820
75%	147818750.000000	0.040030	5895948.146400
max	149989000.000000	3.068400	445853862.000000

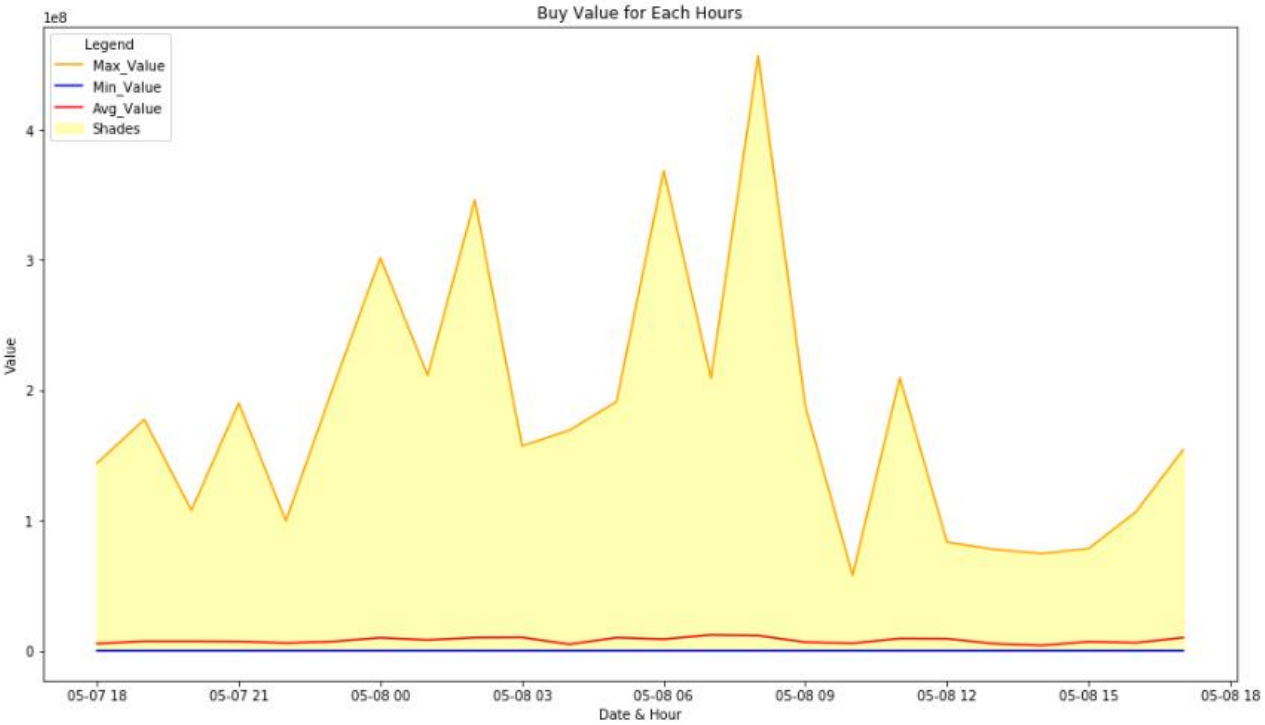
The table above is the distribution of Purchase and Sales data. Based on the value of the standar d deviation, the data tends to be dispersed.

Then I analyze the frequency of trading activities every hour. The numbers fluctuate.



The frequency of purchases reaches its highest point at midnight from 00:00 to 01:00. The frequency of sales exceeded purchases from 3:00 to 4:00 a.m. and in the morning 9:00 to 13:00.





The graph above contains the highest transaction value, lowest transaction value, and average transa ction value every hour for each purchase and sale. The highest transaction value is too far compared t o the average transaction value.

Summary

- On May 7, 2020 at 18:00 to May 8 at 18:00, the number of purchases is higher than the sale.
- The frequency of trading tends to fluctuate.
- Most Selling Trade is purchased at midnight.

Note:

I also attach several files such as Tableau Workbook, Psql Dump Data, python file, and Ipython Notebook.

You can check this link for source code:

- https://github.com/abdikaalbiyan/My_Notebook/blob/master/Indodax_Tech_Test_API_Parser.py
- https://github.com/abdikaalbiyan/My_Notebook/blob/master/Indodax_Tech_Test%20Albiyan%20Abdika.ipynb

If you wish, please check for additional consideration.

Thank you.