HWK 3: Classification homework – due on 11/17/2023 at 11:59 pm

Classes (remember the long-jump example discussed in class):

1) **FORECASTABLE** currency pair,
2) **NON-FORECASTABLE** currency pair, and
3) **PARTIALLY FORECASTABLE** currency pair.

See data at:

https://drive.google.com/drive/folders/16d0qAeVdxZMC2Sd3yWjgUxTFD2dZeDrS?usp=share_link

1. Organize the data in both MongoDB and MySQL:
    a. Hourly basis
    b. Same starting date
    c. Same ending date
    d. Hourly price (VWAP)
    e. Hourly liquidity (number of transactions)
2. Every 6 hours (i.e., 4 times a day), create a vector of features and generate a *.csv file:
    a. Timestamp
    b. VWAP price
    c. Liquidity (average number of transactions per hour)
    d. Volatility (like in HWK 2)
    e. Max (like in HWK 2)
    f. Min (like in HWK 2)
    g. FD (like in HWK 2): use the first 6-hour slot to generate the Keltner Bands and a distance between 2 bands that make sense (see class explanation).
3. Use the 70-30 train-test rule to classify each currency pair over a regression (use *PyCarat*) – feel free to use a multi-folder process if necessary.
4. Write a report (1 page maximum) with the classification and the regressions used (please explain) and submit it on Brightspace with the codes and the *.csv file.