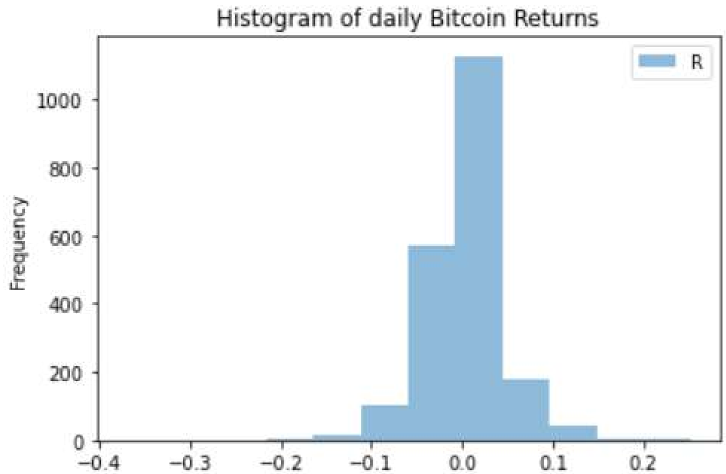
3.2 Challenge: Histogram

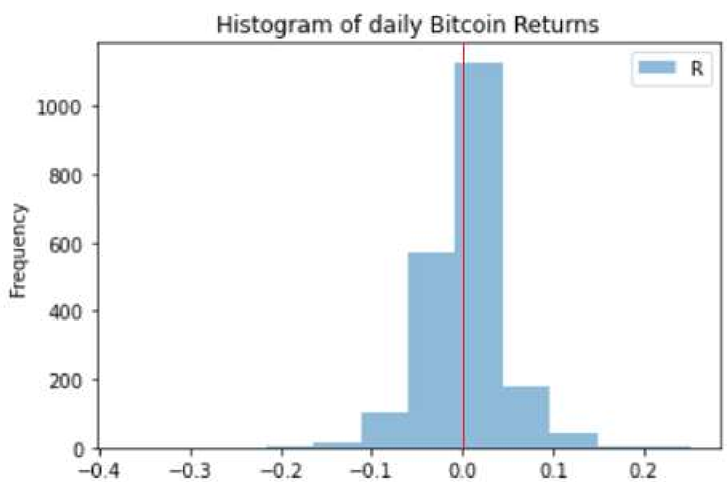
Wednesday, August 10, 2022 3:33 PM

Myroslava Sánchez Andrade A01730712 | 10/08/2022

```
r_bitcoin = pd.DataFrame(BTC[["R"]])
hist=r_bitcoin.plot.hist(bins=12,alpha=0.5,title="Histogram of daily Bitco
```

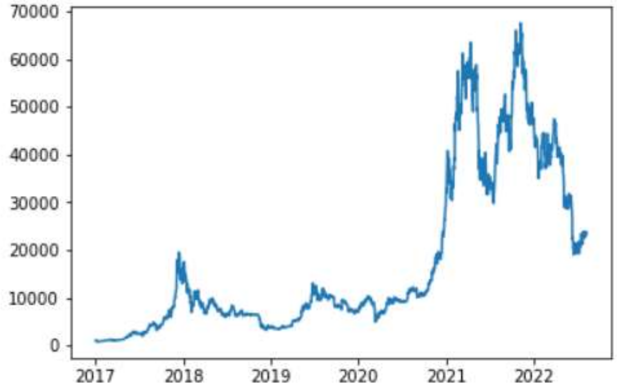


AT FIRST SIGHT, IT MIGHT SEEM THAT THE DAILY FREQUENCY RETURNS OF THE BITCOIN SINCE 2017 UNTIL TODAY (08/10/2022) TENDS IN ITS MAJORITY TO BE EITHER 0 OR NEGATIVE. BUT AFTER DRAWING A VERTICAL LINE ALIGNED TO THE 0, I WAS ABLE TO REALIZE THAT THE FREQUENCY OF RETURNS TENDS TO BE IN ITS MAJORITY POSITIVE.



ANOTHER REALLY IMPORTANT POINT TO HIGHLIGHT IS THAT THE HISTOGRAM EXPOSES A NORMAL DISTRIBUTION (BELL-SHAPED). THIS MEANS THAT THE MEAN OF THE RETURNS TEND TO BE ±0, WITH A REALTIVE SMALL VARIANCE.

EVEN THOUGH THERE IS MORE PROBABILITY OF A POSITIVE RETURN, I WOULD NOT SAY THAT THE DIFFERENCE BETWEEN THE PROBABILITY OF A POSITIVE AND A NEGATIVE RETURN IS THAT MUCH. AND THIS POINT ABOVE ACTUALLY MATCHES WITH THE ANALYSIS OF THE PLOTTED GRAPH OF THE RETURNS, WHICH SHOWS AN INCREMENT OF THE RETURNS OVER *A LONG* PPERIOD OF TIME.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