Granger Casuality Tests For Offsets

<https://www.kaggle.com/shrivastava/granger-casuality-tests-for-offsets>

Objective: To use Granger Casuality approach to show how sentiments affect the stock prices. About Granger Casuality:

1. According to wiki: The Granger causality test is a statistical hypothesis test for determining whether one time series is useful in forecasting another, first proposed in 1969. Ordinarily, regressions reflect "mere" correlations, but Clive Granger argued that causality in economics could be tested for by measuring the ability to predict the future values of a time series using prior values of another time series. Since the question of "true causality" is deeply philosophical, and because of the post hoc ergo propter hoc fallacy of assuming that one thing preceding another can be used as a proof of causation, econometricians assert that the Granger test finds only "predictive causality".

Intuitively, granger casuality can be used here to show how sentiments affect the stock market prices.

How to determine it? The general observation is that the stock prices are observed to drop down after the sentiment is given. The drop value should be calculated after and before the sentiment is released. The drops should be converted to standard zscore before using for granger casualty tests. I have used a particular asset to make observations.