Context
Trading the stock market in a smart manner requires making smart estimates as to what direction the price of an instrument will move. While the stock market will forever be truly random with no model being 100% certain, there are approaches one can take to minimize portfolio risk. The idea for this project is to see if there is any correlation with prices across major indices in differently time-zoned stock exchanges that could potentially serve as a predictor for an exchange not yet open for the day.

Criteria for success
Metrics such as Mean Square Error, or R squared demonstrate a clear numerical conclusion as to whether index percent change is correlated or not.

Scope of Solution Space
Determine whether percent change in opening, close, daily average price across datasets have a sufficiently strong correlation to be predictors of each other

Constraints
Limited dataset
Number of exchanges
Missing dates due to differing holidays across cultures
Price itself is wildly different across datasets
Indexes are at their core, just summaries of the biggest companies in the respective exchange
Country exchange resides in has local political factors that influence index price heavily

Stakeholders
Anyone who would want to explore this as a potential investment strategy, including but not limited to investment banks, hedge funds, day traders, hobbyist investors, etc.

Data Sources
The data was compiled from historical data provided by Yahoo Finance in CSV form. Included are four major indices across four major stock exchanges. These are
EuroNext 100
Nikkei 225
Hang Seng Index
Dow Jones Industrial Average