Sample Instructions:

**Background information:**

You are provided with one day's worth of market data for two stock tickers(StockA & StockB). The data consists of information from the limit order book and trade information for both stocks merged and ordered chronologically.

A limit order book consists of two sides: Bid side and Ask side. Bid side represents demand, and the best bid prices represent the highest price at which market participants are willing to buy the given stock. Ask side represents supply, and best ask price represents the lowest price at which market participants are willing to sell the given stock. A trade transaction occurs when a market participant places an order to buy at or higher than the prevailing Best ask price, or when he/she places an order to sell at or lower than the prevailing Best bid price.

**Description of fields:**

'time' is the local timestamp when the updates occurred in microseconds; 'symbol' is the stock ticker; 'bid', 'ask' are the best bid(ask) prices at the time, 'bidSz','askSz' are the corresponding total quantities available at the 'bid' and 'ask' price. When a trade occurs, 'trdpx' is the executed price of the transaction, trdsz is the executed quantity, trdsd is the side of the order in the limit order book being executed(trdsd = 1 implies a trade on the ask side and trdsd = -1 implies a trade on the bid side).

The trdpx, trdsz, trdsd fields are not populated(default to zero) in rows corresponding to changes in the book; the bid,bidsz, ask,asksz are not populated(default to zero) in rows corresponding to trades.

**Objective:**

We would like you to build a quantitative model to make predictions on the future price movement of each individual stock, and understand the relationship between them(if any) based on the information provided. Your end deliverable is provide us with a brief write up of your analysis and code for your final model(s) in MATLAB,R,C++ or Python. Given this is one day worth of data which serves as a toy example, we are not expecting any prediction accuracy/significance of your results, but rather your approaches.