we choose a technical indicator, the variance over the last hour, which defines the overall topic of the challenge.  
  
In the attachment you can find a CSV file which contains the data you should analyze. It is minute data of the open price for an equity.  
  
Given this, please do what follows  
  
1. Describe the data, say something about missingness.  
2. Calculate the indicator. (You are free to use existing packages) and join it to the dataset.  
3. Define an Event of Interest, e.g., a rise or fall of an equity by .5% within 30 minutes.  
4. Using this definition and the indicator, calculate it for the given dataset.(Join it as an extra column to the data frame, indicating with either 1 (-1) or 0 if the event occurred looking backwards. Feel free to choose a useful encoding of the respective categories.  
5. Make a small exploratory data analysis on this new dataset. What does the variance have to do with the events? Correlations?  
6. Based on your results, design/suggest a trading algorithm.  
  
For collaborative work we are using ipython notebooks (they can be easily set up and are often the backbone of the work of data scientists). You can use the standard data analysis setup. It would be best if you would send one to me to submit your solution of the challenge. Do not hesitate to ask if you encounter problems.