1. What scale of measurement applies to timeseries data? Is timeseries data continuous or discrete? Why?
2. What does ARIMA stand for? Break down and explain each piece in the name.
3. Using the data in the temperatures/ folder. Write a function that efficiently converts every column to a different temperature scale: one that is more common than Kelvin.
4. Write a function that efficiently fills in missing values in every column, excluding trailing NANs. That is: if there's temperature data on either side of a timestamp, it should interpolate through it. But if data stopped being collected, your function should leave nans at the end.
5. Find all cities A and B where city A is warmer than city B in the summer, but also colder than city B in the winter, on average.
6. For two of the cities you found in question 5 (there are many possible answers), clean up the data via rolling averages and plot a clear visual. Explain how rolling average differs from moving average (MA) model.
7. Perform SARIMA on five cities, iterating through the cities programmatically. Explain your results.
   1. Graph the predicted values 30 days out.
8. Explain what you see when you perform results.summary() on the cities in question 7.

Bonus:

What do GARCH and ARCH Stand for? Break down and explain each piece in the names. Explain the difference between the two. Create a GARCH and ARCH model on the same 5 cities from question 7. Explain and graph the results.