Time Series Analysis

Give two real-world examples of time series and it's applications:

Hourly/minutely opening and closing prices of stocks and it is used to predict the future stock prices.
 Hourly temperature measurements from a weather station is used in weather forecasting.

List a real-world example of each, of the four main components of a time series.

Trend: Increase or decrease in the data over long-term.eg:Shows a upward trend in temperature due to global warming.

Seasonality: Repeating patterns at regular intervals. Eg: Decrease in temperature every year during winter.

Cyclical Component: Long-term oscillations not of fixed period.eg:Unemployment Rates rising and falling with economic cycles

Noise:Random or unpredictable variation in the data. eg:Stock market crash due to COVID 19 pandemic.