**Time series Analysis**

Additional Notes

When you plugging datas, your **x axe always be your time unit** (measure of time).

Horizontal Pattern: usually there is no trend – in which the line seems not go upward or downward. Looks random.

* If you have **horizontal pattern** in your data, then we use either Moving-Average method or Exponential Smoothing method.

Trend is not predictable, different from seasonality. Upward/Downward data graph may be considered as a signal of trend. Upward: positive trend

Rule #1: Always plot your data

Rule #2: Never forget rule #1

Pattern (like in Bycicle tab) – There is a trend! (up or down): use Linear Regreasion

Also Linear Regression is very common to use

**Seasonal Pattern** (have to be less than 1 year)

**Seasonality Without Trend**: We can model a time series with a seasonal pattern by treating the season as a dummy variable.