Heather Siart
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Partners: N/A

Week 9: Reading Questions

Q1: With maximum likelihood you get a more accurate model but it is time consuming, not as efficient and can be bias. Least squares or the canned method is simpler but it is not as accurate as maximum likelihood.

Q2: The four key assumptions for Group 1: [General] Linear Modelas are:

1: Normality: Normality refers to model residuals, they must be normally distributed.

2: Constant variance at every level of x a.k.a homoskedasticity, a.k.a homogeneity

3: Independent observations: There is no correlation between consecutive residuals in time series data.

4: Fixed x: no measurement error in our predictor variables

Q3: You can easily see if there is a linear relationship between x and y to determine if normality assumption is met by creating a scatterplot with the data and visually seeing if there is a linear relationship between the two variables. Also, for normality you can build a quantile plot to see if your data is normal distributed. To make sure it is meeting the assumption of independent observations you have to make sure that your data is not just growing at the same rate as it moves along your x-axis. Making sure your data is not heteroscedastic, when looking at your scatterplot you don't want to see a megaphone shape. If you do, then it is heteroscedastic, and you don't want that because it makes your data hard to trust.