Problem 1
Remember from last week we discussed that skewness and kurtosis functions in statistical packages are often biased. Is your function biased? Prove or disprove your hypothesis.

Using the data from Problem1.csv, I ran kurtosis and skew from pandas and found with skew, values of .23 for X and .29 for y. Because the skew is between -.5 and .5, the data is relatively normal as seen in the plot from the function sns.displot function. Kurtosis had values of -.20 and -.09 for x and y respectively which being pretty near 0, explains normalization.

Problem 2
Fit the data in problem2.csv using OLS and calculate the error vector. Look at its distribution. How well does it fit the assumption of normally distributed errors?

With the OLS, given that the OLS regression results output an r^2 value of .19, it can be argued that it did not do that fitting

Fit the data using MLE given the assumption of normality. Then fit the MLE using the assumption of a T distribution of the errors. Which is the best fit?

“I could not finish this section in time cause of multiple issues and me being lost.” I was working alone on this for the most part.

What are the fitted parameters of each and how do they compare? What does this tell us about the breaking of the normality assumption in regards to expected values in this case?
Problem 3

Simulate AR(1) through AR(3) and MA(1) through MA(3) processes. Compare their ACF and PACF graphs. How do the graphs help us to identify the type and order of each process?

Could not complete this part.