From your analysis of the categorical variables from the dataset, what could you infer about their effect on the dependent variable?
Categorical variables and numerical variables both are contributing towards the prediction. Categorical variables are converted into dummy variables for the sake of ease of computation.

Why is it important to use drop_first=True during dummy variable creation?
To drop those initial values which will be no longer be used.

Looking at the pair-plot among the numerical variables, which one has the highest correlation with the target variable?
Temp and atemp variable

How did you validate the assumptions of Linear Regression after building the model on the training set?
By checking the R2 score-high and the error distribution-normal and the variance of error terms-should be constant.

Based on the final model, which are the top 3 features contributing significantly towards explaining the demand of the shared bikes?
Mnth_september

Explain the linear regression algorithm in detail.
Linear regression is the process of building the model where the certain assumptions plays the vital role such as linear nature of dependance of dependant and independent vairlables and normal distribution of error terms plays a vital role in predicting the continuous values with mean squared error loss.

Explain the Anscombe's quartet in detail.
Similar descriptive statistics but different distributions.

What is Pearson's R?
Measuring the Correlation in terms of -1 to 1 in which -1 is negatively correlated while +1 is correlated positively while 0 is no correlation among the variables.

What is scaling? Why is scaling performed? What is the difference between normalized scaling and standardized scaling?
Scaling is the process of bringing the values to the scale where the values are easily perceived on a measurable scale. Normalized scaling is done with min max values of the variables while the standard scaling is done with the mean and standard values.

You might have observed that sometimes the value of VIF is infinite. Why does this happen?
Large VIF or infinity indicates that there is high correlation.

What is a Q-Q plot? Explain the use and importance of a Q-Q plot in linear regression.
Tells if two variables comes from a same distribution. Helps in linear regression to find out the same distribution if it is then it will be a linear in nature.