Assignment-based Subjective

Questions

1. From your analysis of the categorical variables from the dataset, what could you infer about their effect on the dependent variable? (3 marks)

Ans:

* Holiday – demand increases during Holiday.
* Working day – demand during Holidays is more than Normal Working day
* Yr – year 2019 had a significant growth in terms of business and demand increases significantly high
* Season – Summer and Fall demand increases for the bike
* Mnth – Demand continuously increases till the month of September and October
* Weekday – Demand for Bikes on Friday and Sunday is significant.

2. Why is it important to use drop\_first=True during dummy variable creation? (2 mark)

Ans :- This is an additional and redundant columns and doesn’t add any significance in the model building.

3. Looking at the pair-plot among the numerical variables, which one has the highest correlation with the target variable? (1 mark)

4. How did you validate the assumptions of Linear Regression after building the model on the training set? (3 marks)

5. Based on the final model, which are the top 3 features contributing significantly towards explaining the demand of the shared bikes? (2 marks)

General Subjective Questions

1. Explain the linear regression algorithm in detail. (4 marks)

2. Explain the Anscombe’s quartet in detail. (3 marks)

3. What is Pearson’s R? (3 marks)

4. What is scaling? Why is scaling performed? What is the difference between normalized scaling and standardized scaling? (3 marks)

5. You might have observed that sometimes the value of VIF is infinite. Why does this happen? (3 marks)

6. What is a Q-Q plot? Explain the use and importance of a Q-Q plot in linear regression. (3 marks)