**Forecasting and Prediction**

**Dataset:** Airlines data with number of passengers in each month

**Number of dummy variables used: 12**

**Model and RMSE value**

|  |  |  |
| --- | --- | --- |
| 1 | rmse\_linear | 48.30986 |
| 2 | rmse\_expo | 43.47847 |
| 3 | rmse\_Quad | 43.89814 |
| 4 | rmse\_sea\_add | 124.97570 |
| 5 | rmse\_multi\_sea | 129.62914 |
| 6 | rmse\_Add\_sea\_Quad | 30.39304 |
| 7 | rmse\_multi\_add\_sea | 11.72479 |

**Multiplicative Seasonality Linear trend** has least RMSE value. So, this model will be used for prediction.

**Dataset:** Cococola sales data with number of units sold in each quarter

**Number of dummy variables used: 4**

**Model and RMSE value**

|  |  |  |
| --- | --- | --- |
| 1 | rmse\_linear | 714.0144 |
| 2 | rmse\_expo | 552.2821 |
| 3 | rmse\_Quad | 646.2715 |
| 4 | rmse\_sea\_add | 124.9757 |
| 5 | rmse\_multi\_sea | 129.6291 |
| 6 | rmse\_Add\_sea\_Quad | 586.0533 |
| 7 | rmse\_multi\_add\_sea | 98**.**249706 |

**Multiplicative Seasonality Linear trend** has least RMSE value. So, this model will be used for prediction.