Business Objective:

Forecast the Airlines Passengers.

Step 1: Create dummy Variables.

12 dummy variables has been created. Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec are the dummy variables.

Log and t\_square value has been created as well.

Step 3: Prepare different models :

1. Linear Model : RSME - 53.19924
2. Exponential Model : RMSE - 46.05736
3. Quadratic Model : RMSE - 48.05189
4. Additive Seasonality : RMSE - 132.81978
5. Additive Seasonality with Quadratic : RMSE - 35.34896
6. Multiplicative Seasonality : RMSE - 140.06320

Step 4: Decide model for forecasting.

1. Since Additive Seasonality with Quadratic has lowest RMSE value (35.34896) , this model will be used for forecasting.

Step 5: Combining Training & test data to build Additive seasonality using Quadratic Trend