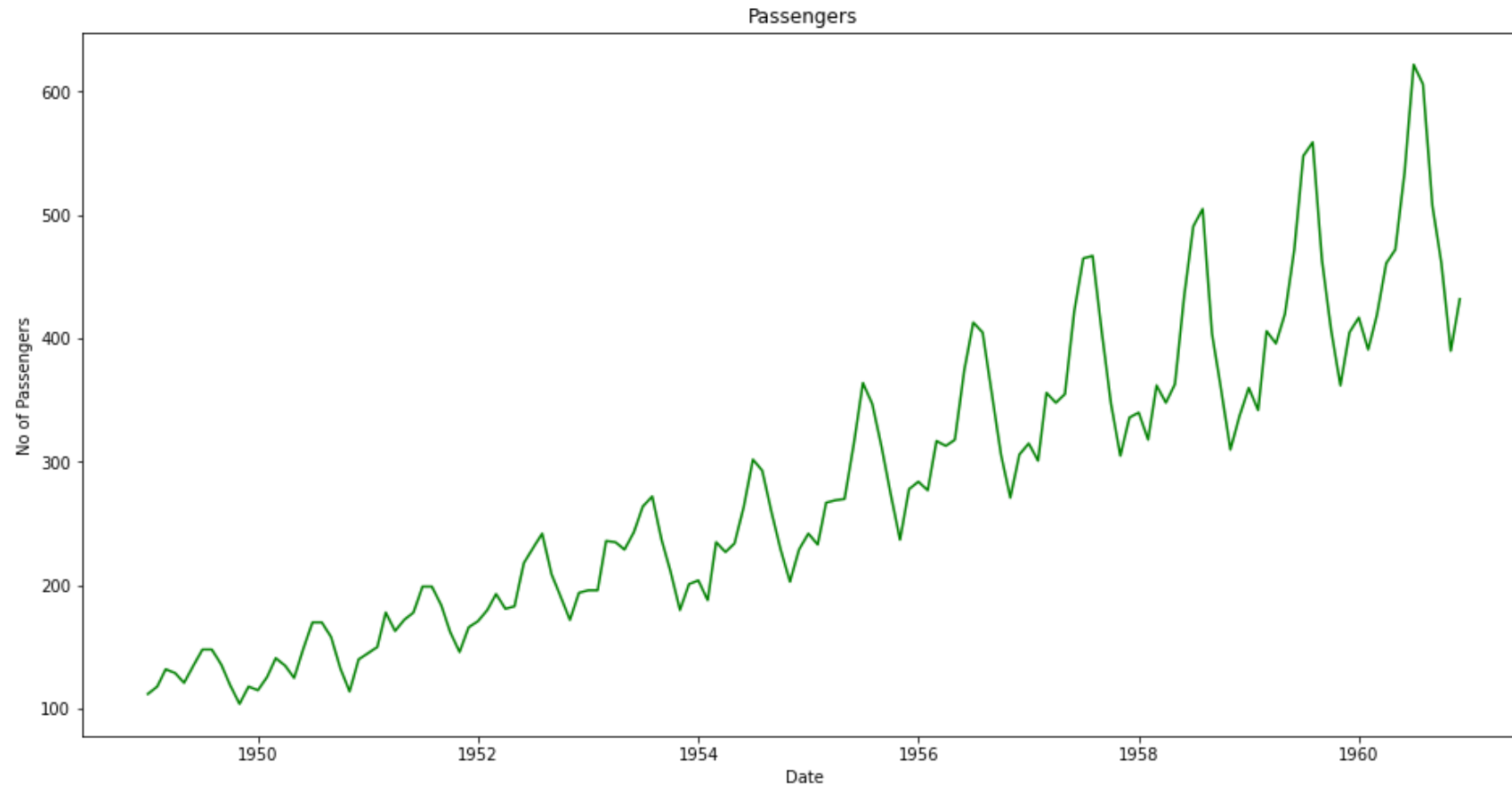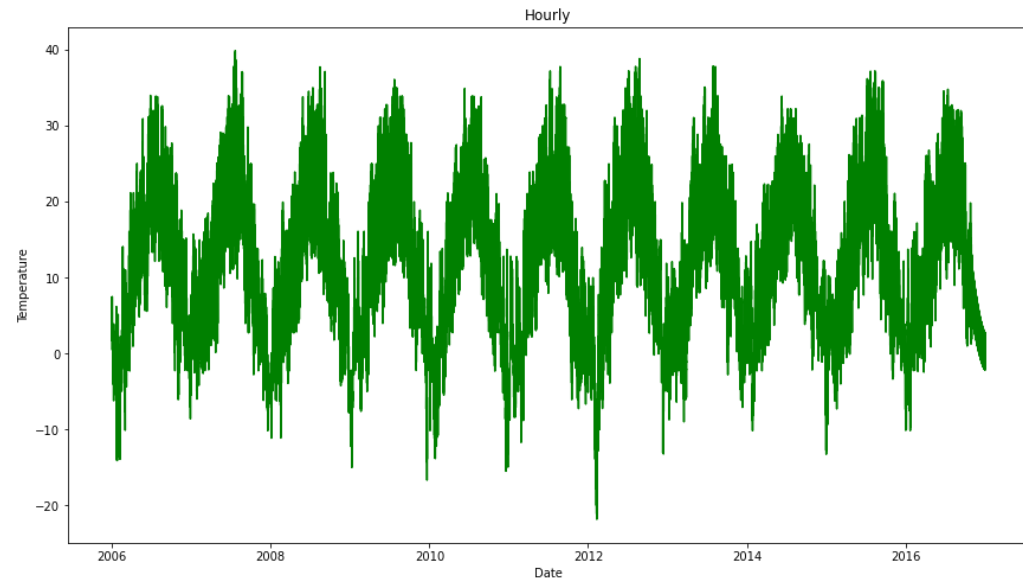# Time Series Forecasting

COMPARISION STUDY - ARIMA, HYBRID ARIMA + ANN & LSTM

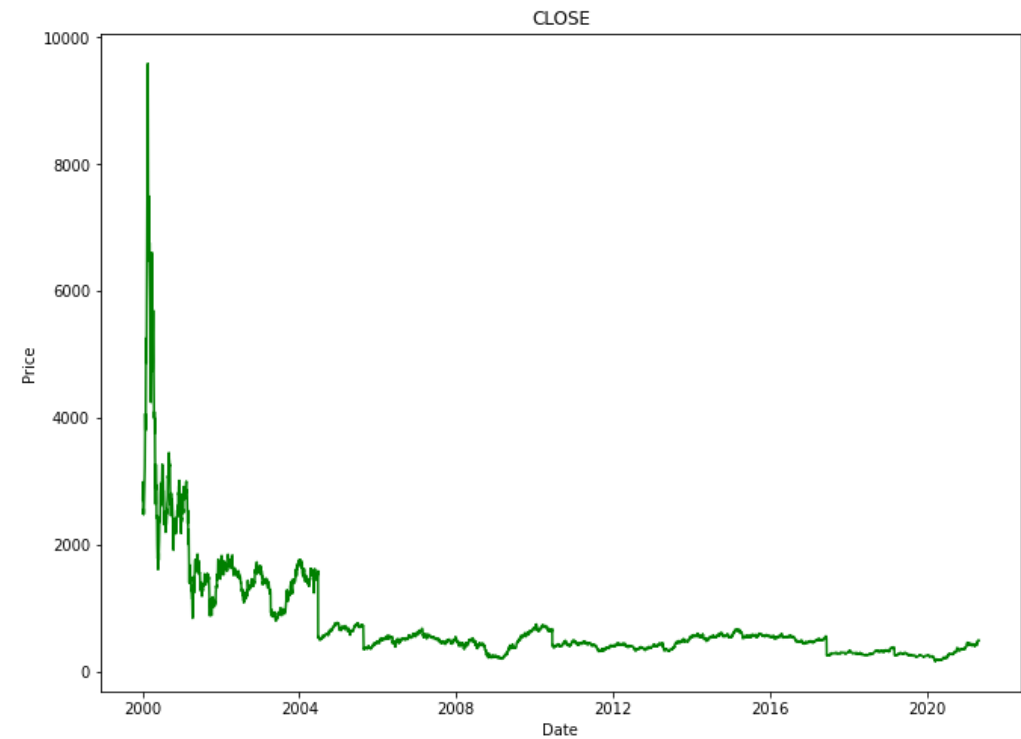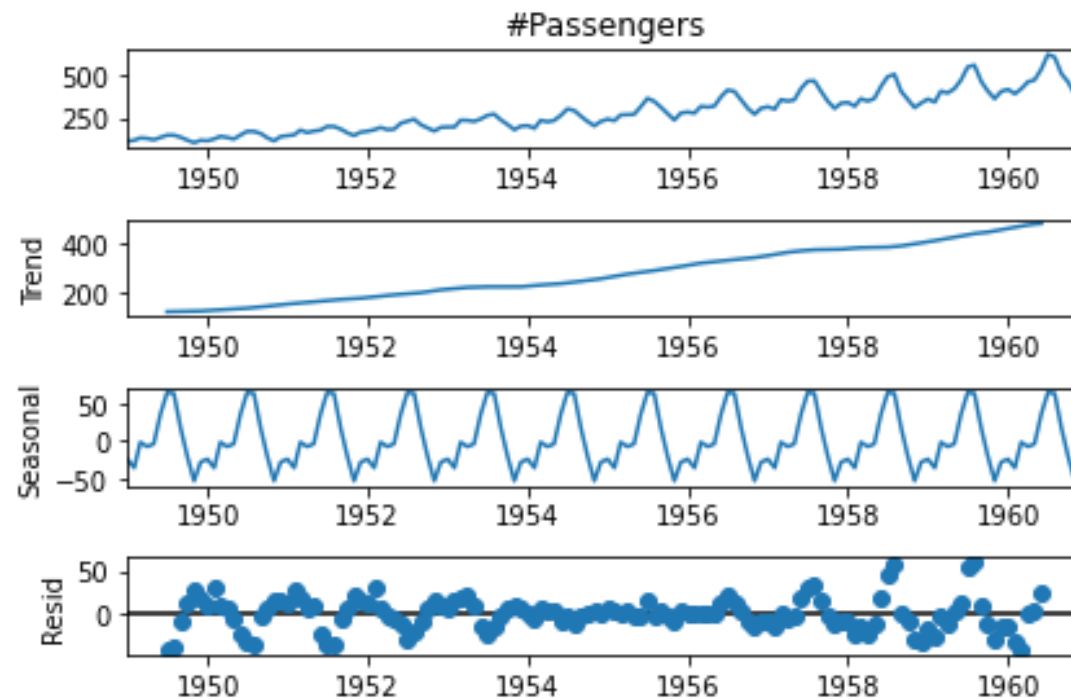# DATASETS
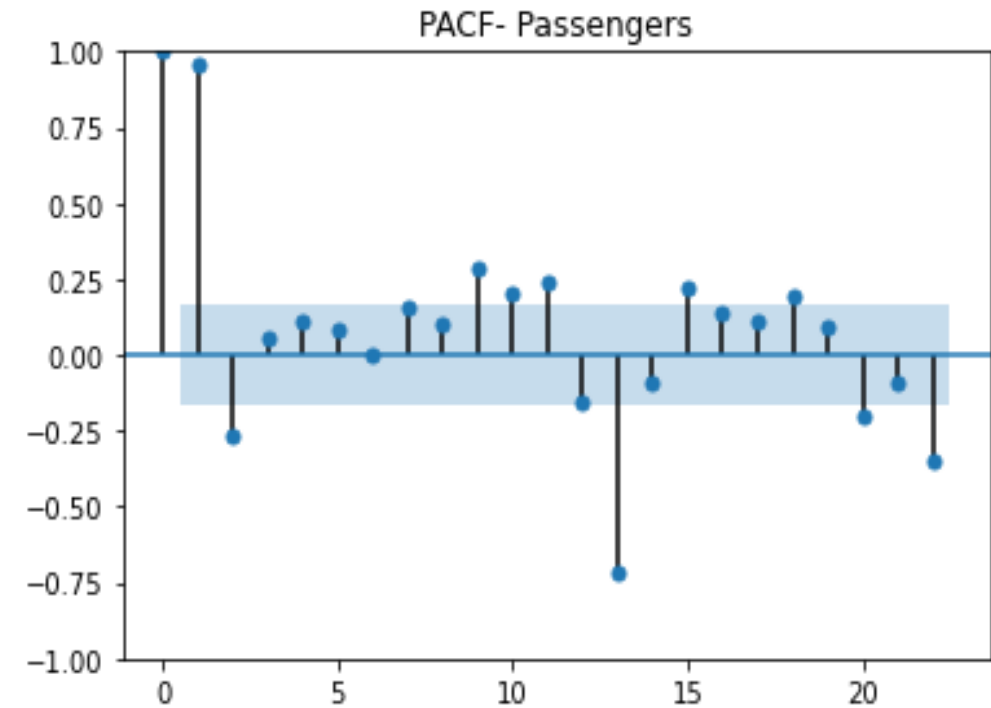
Airline Passengers

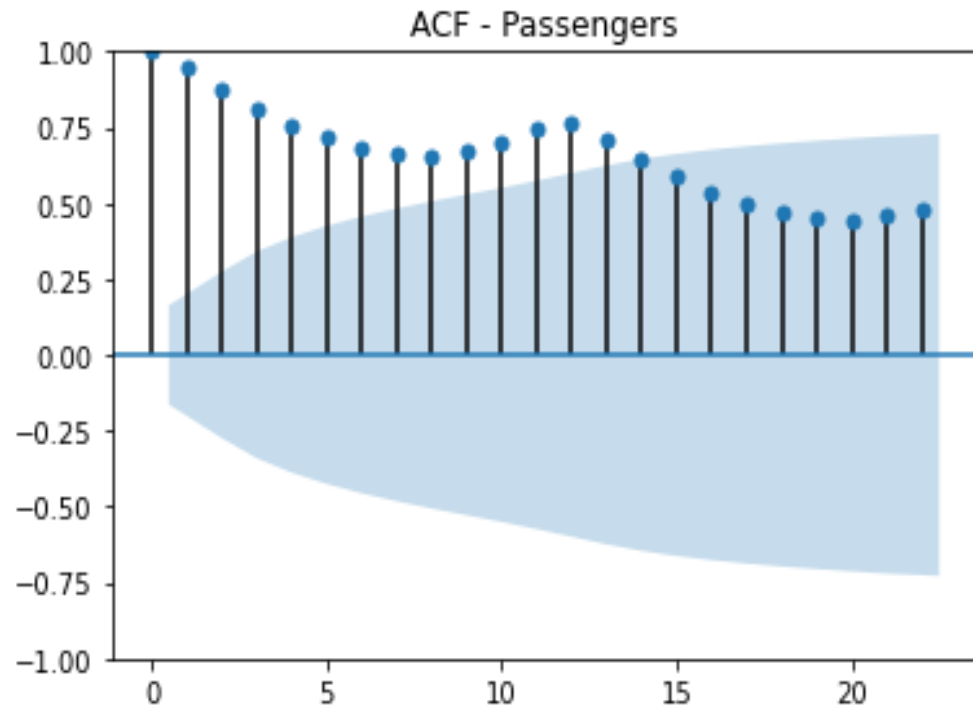# Weather History

Wipro Stocks – Open & Close
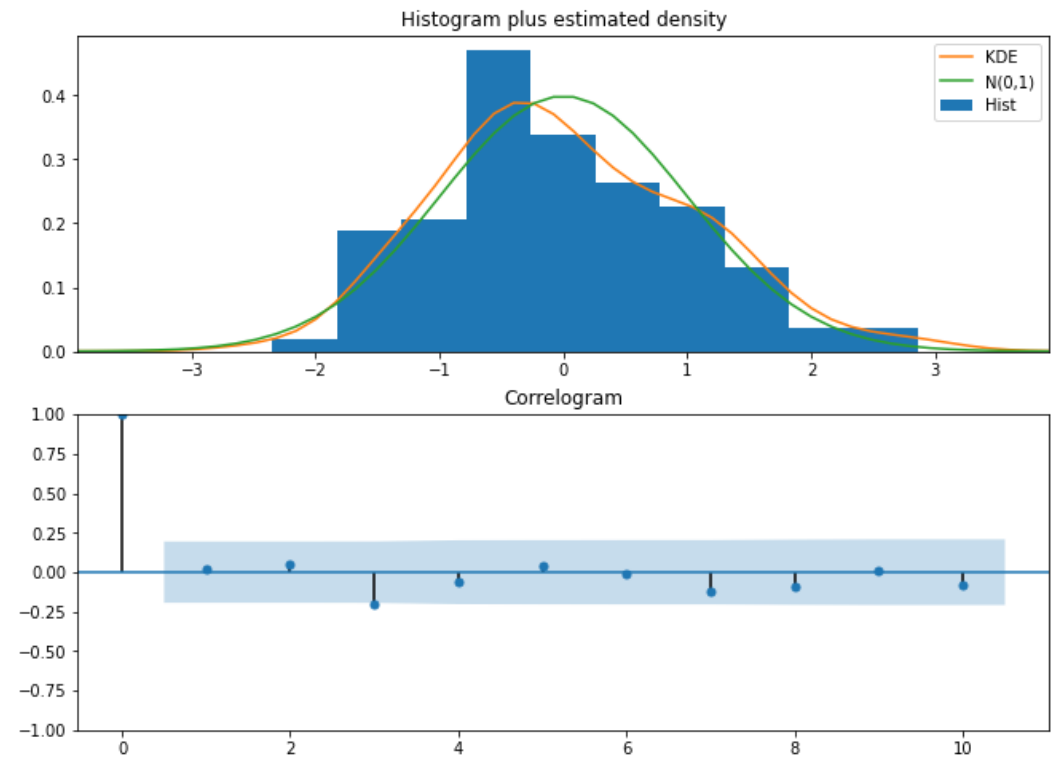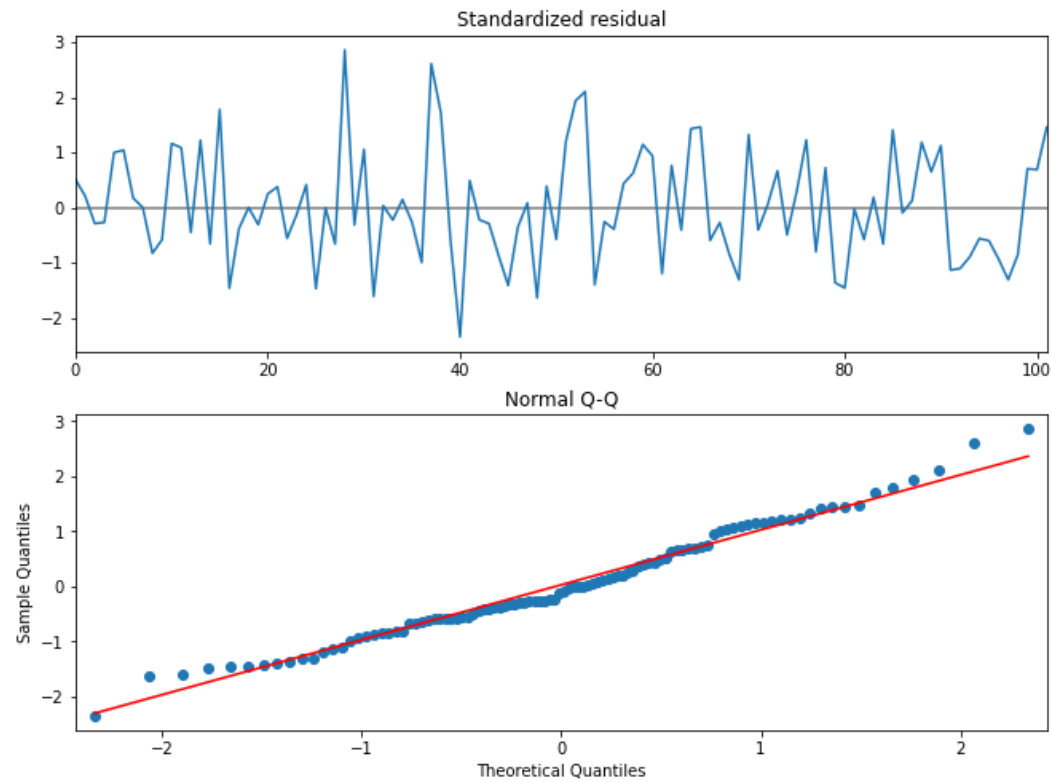
S-ARIMA

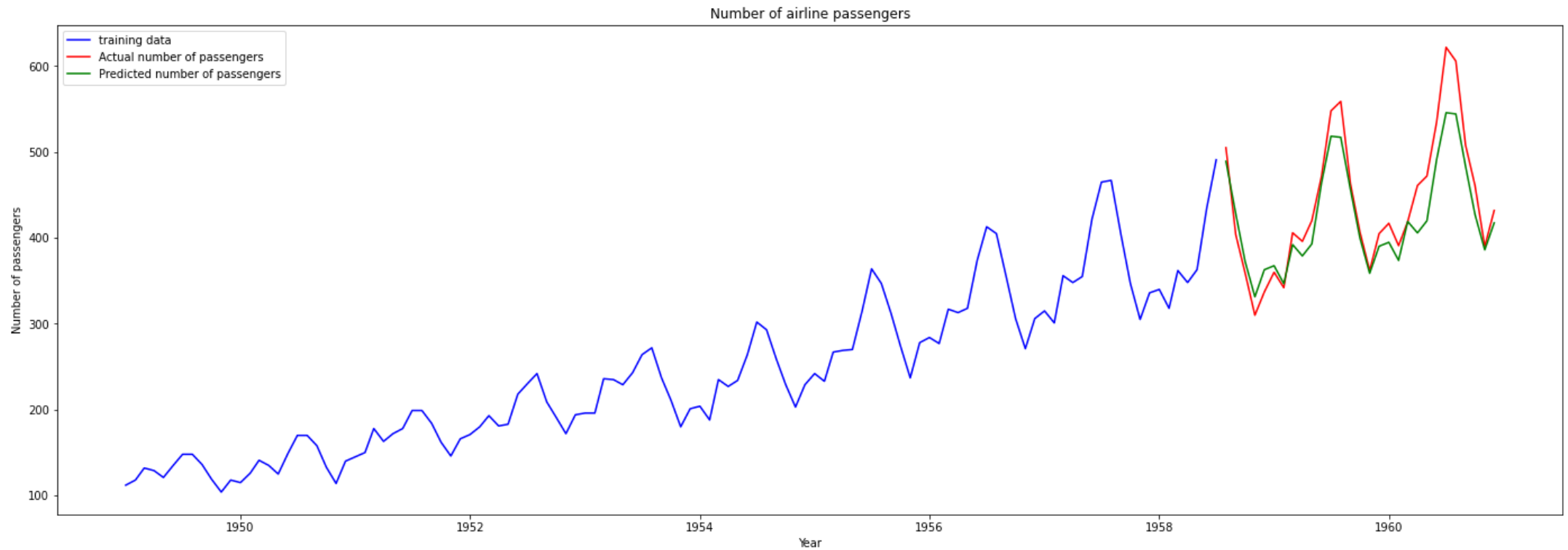# Airline Passengers - Seasonality
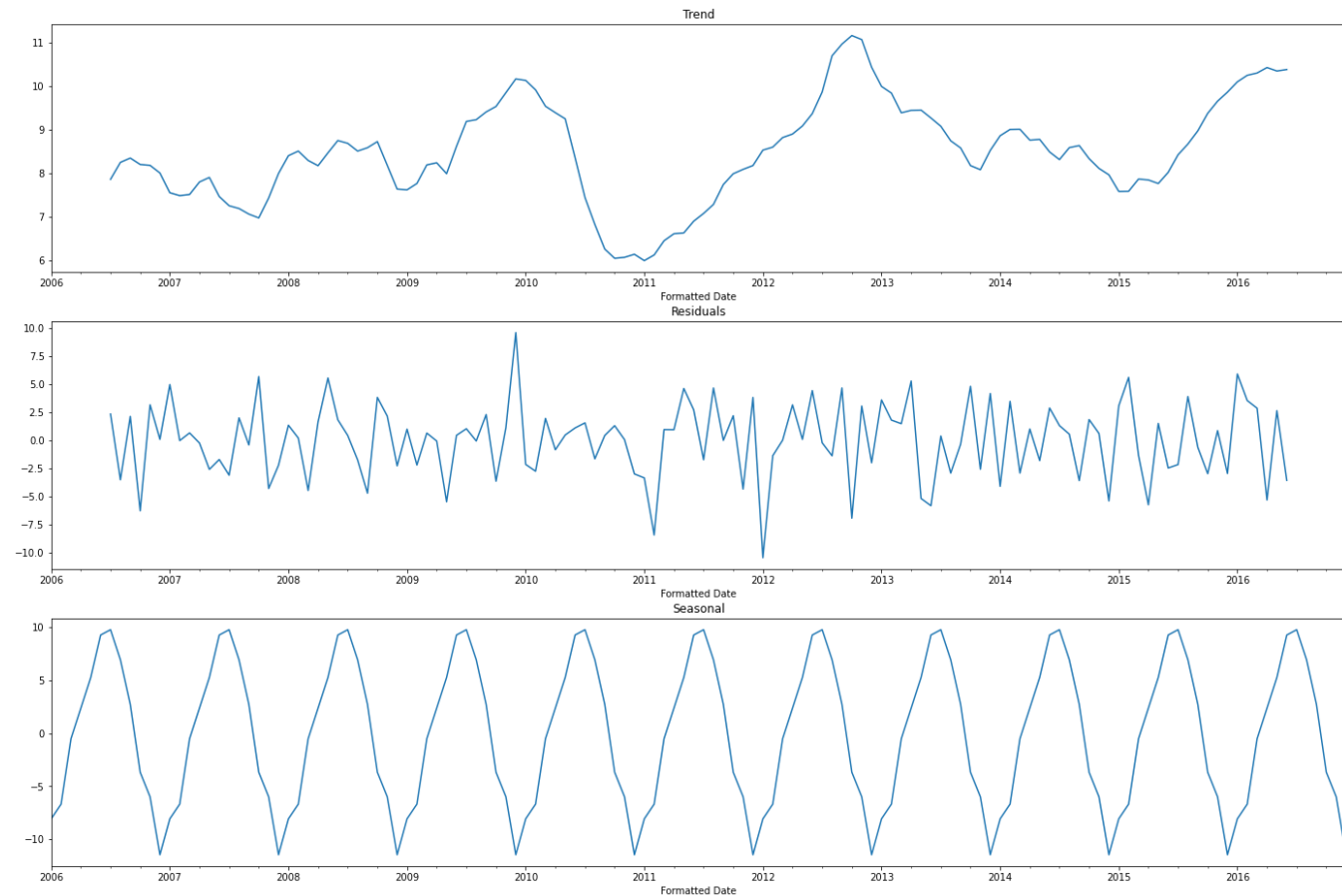
Airline Passengers – ACF & PACF
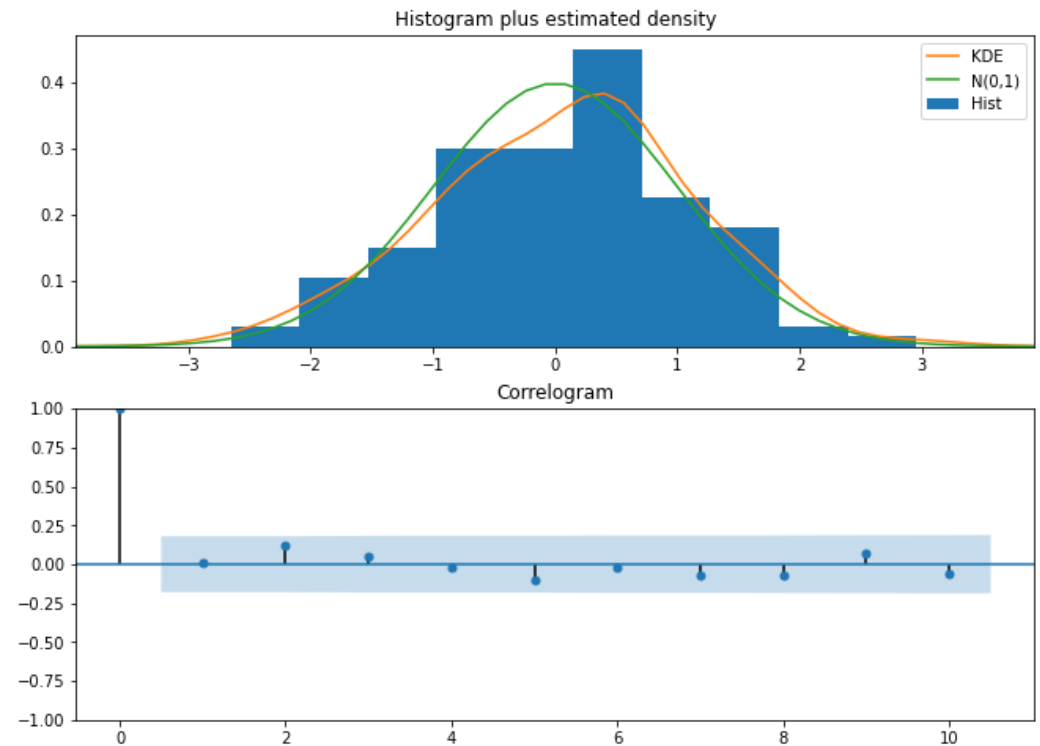
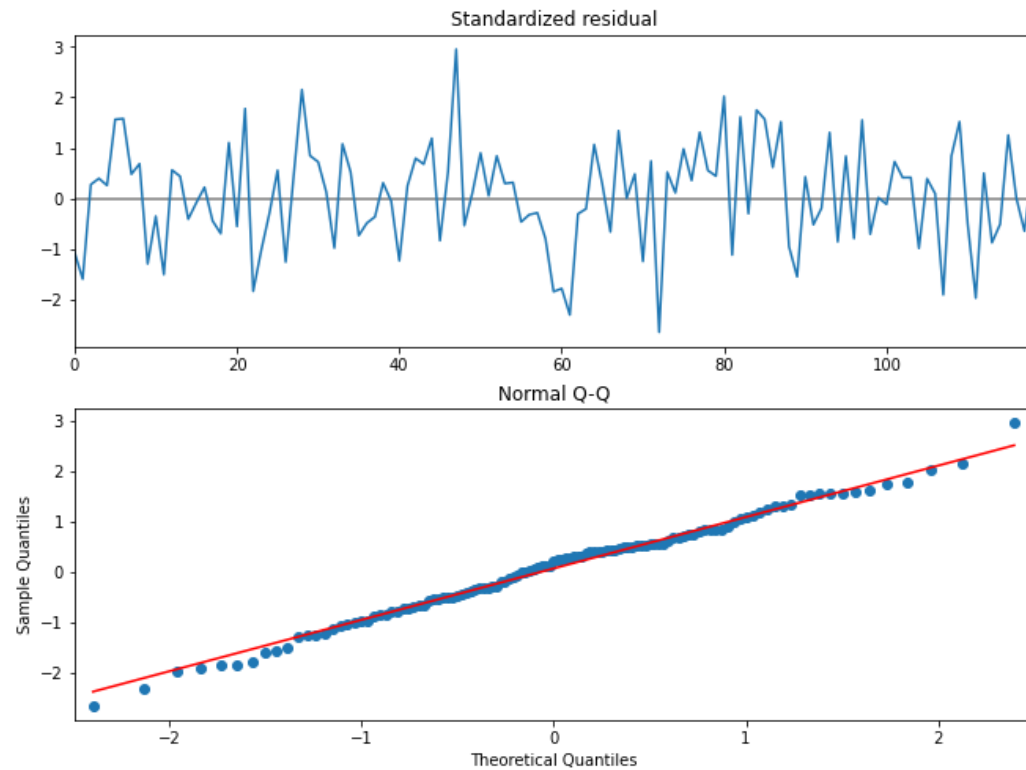# Airline Passengers – SARIMA

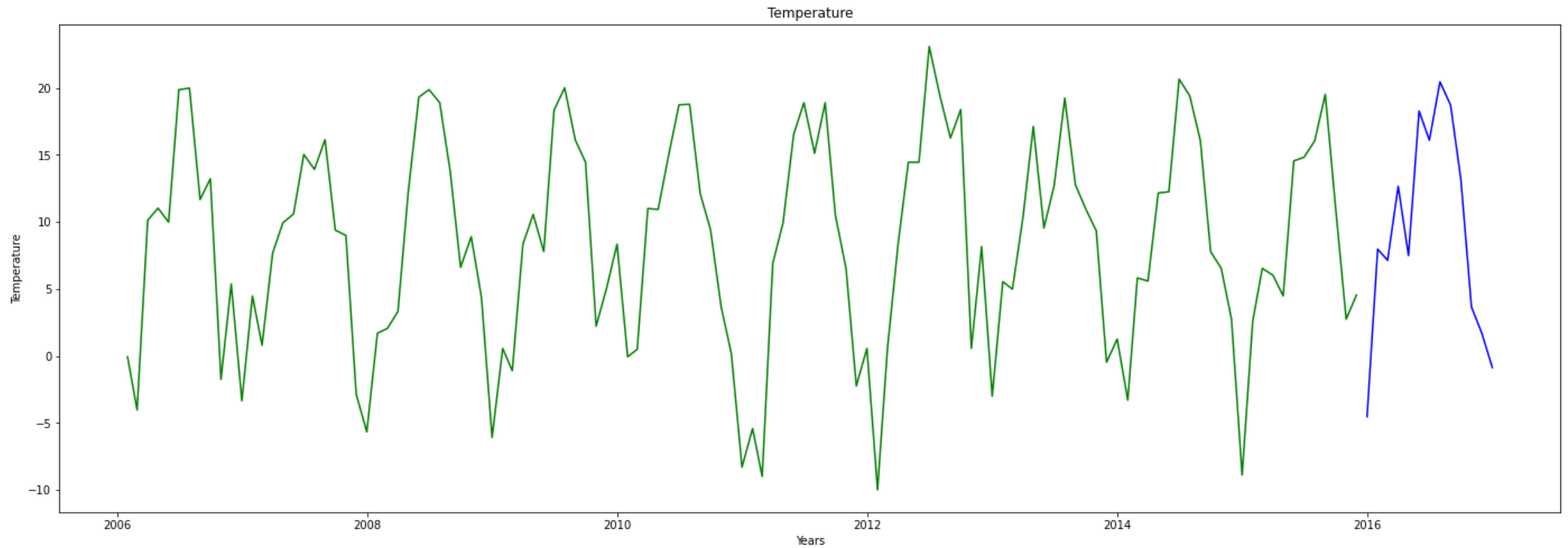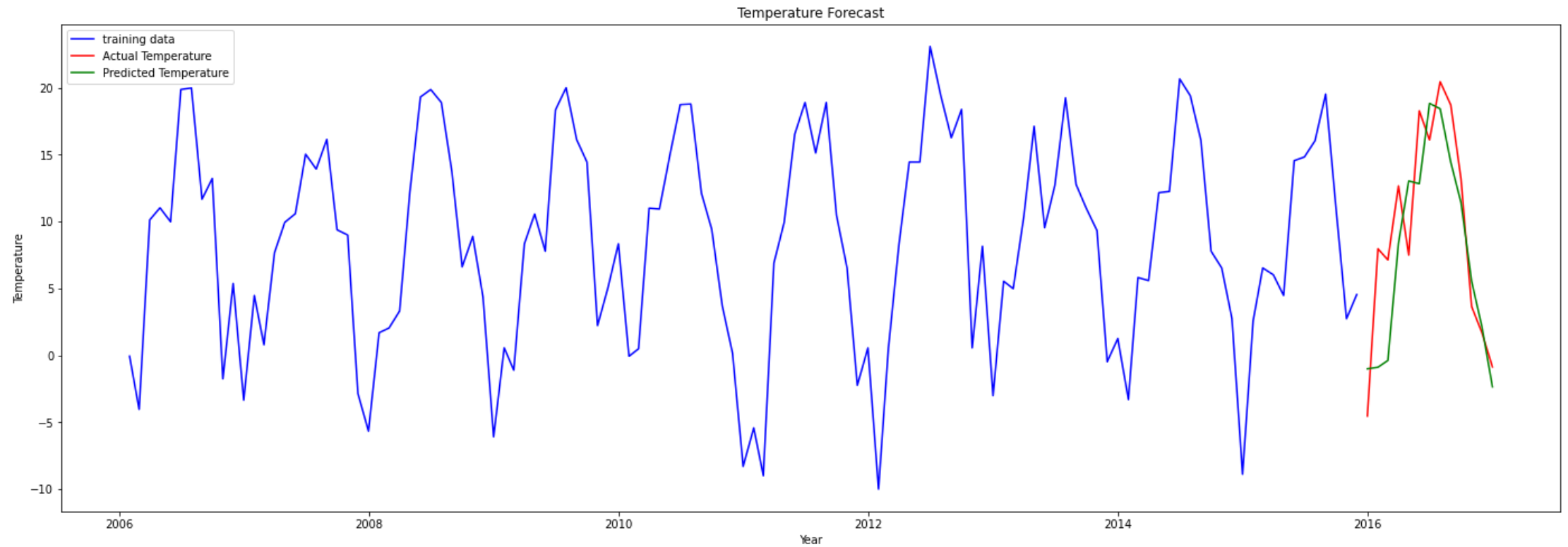# Airline Passengers – Predictions
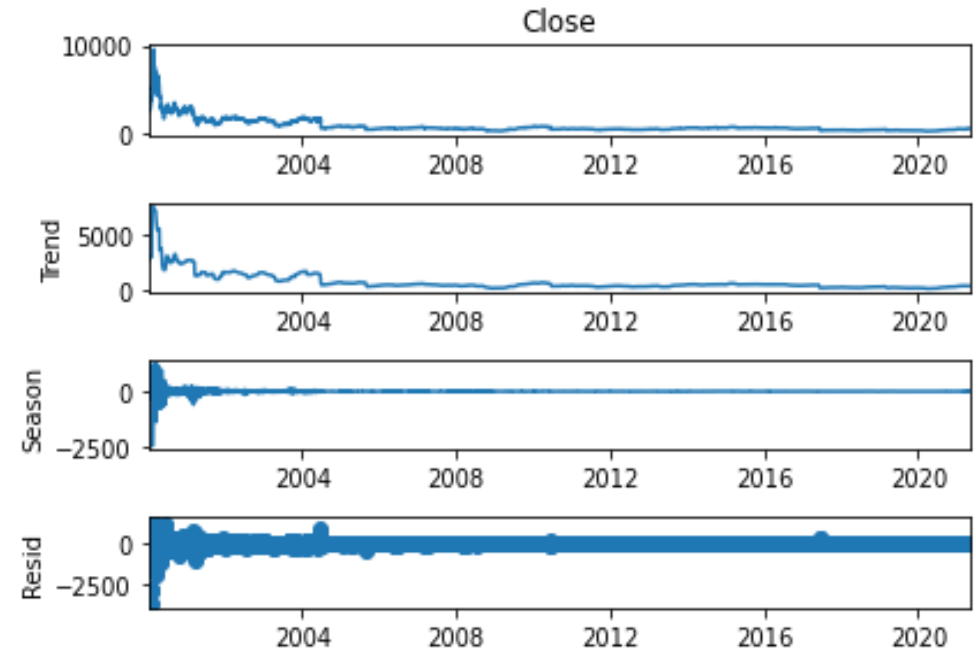
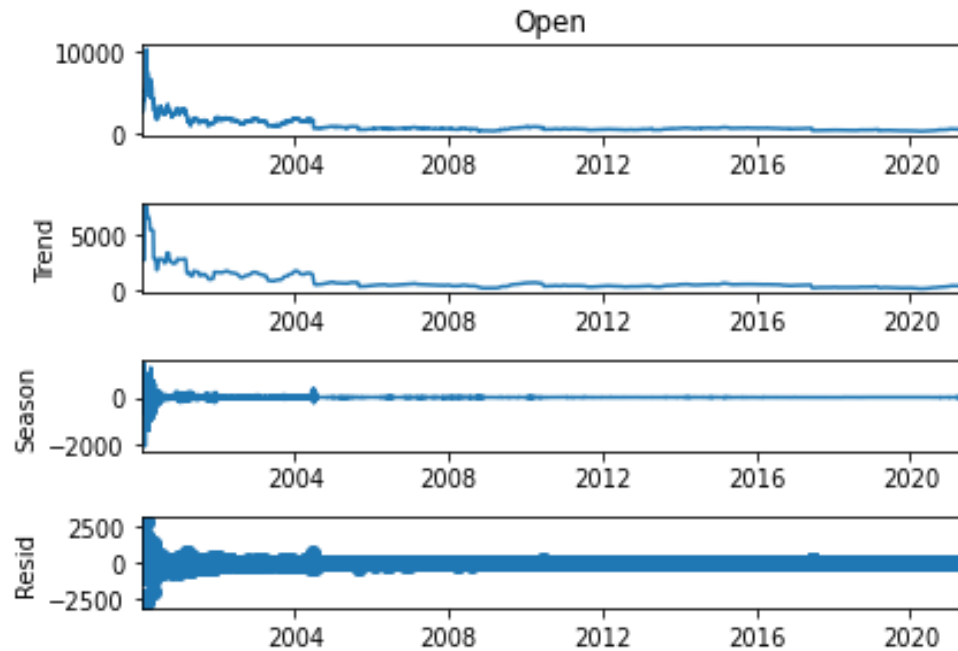# Weather History – Seasonality

Weather History – SARIMA
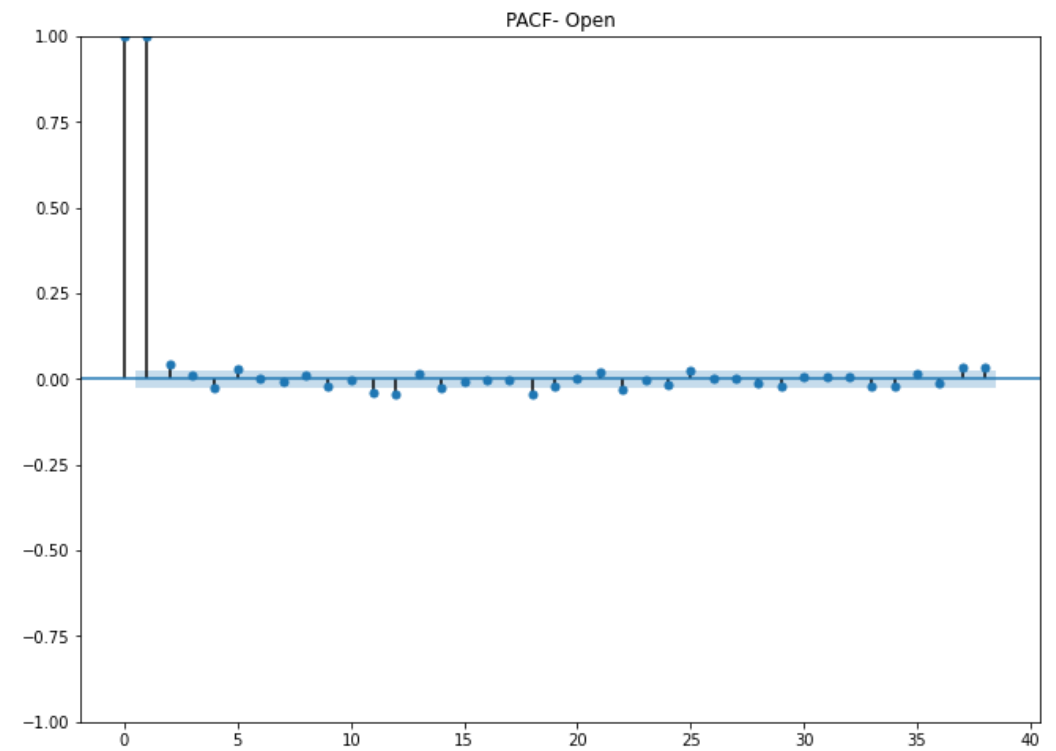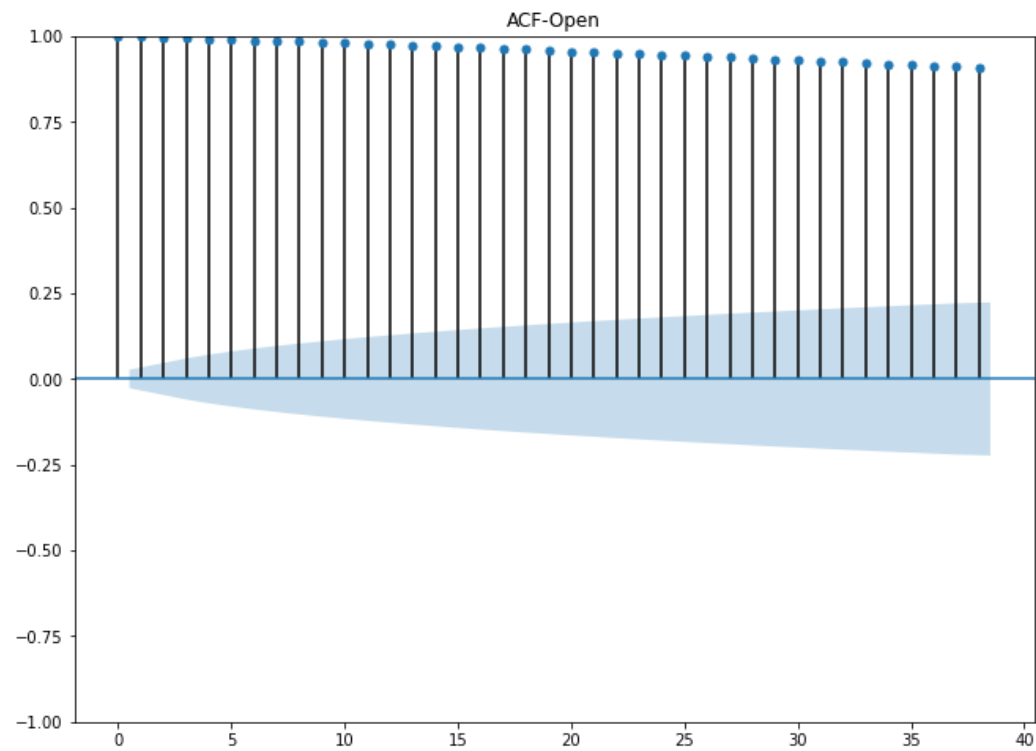
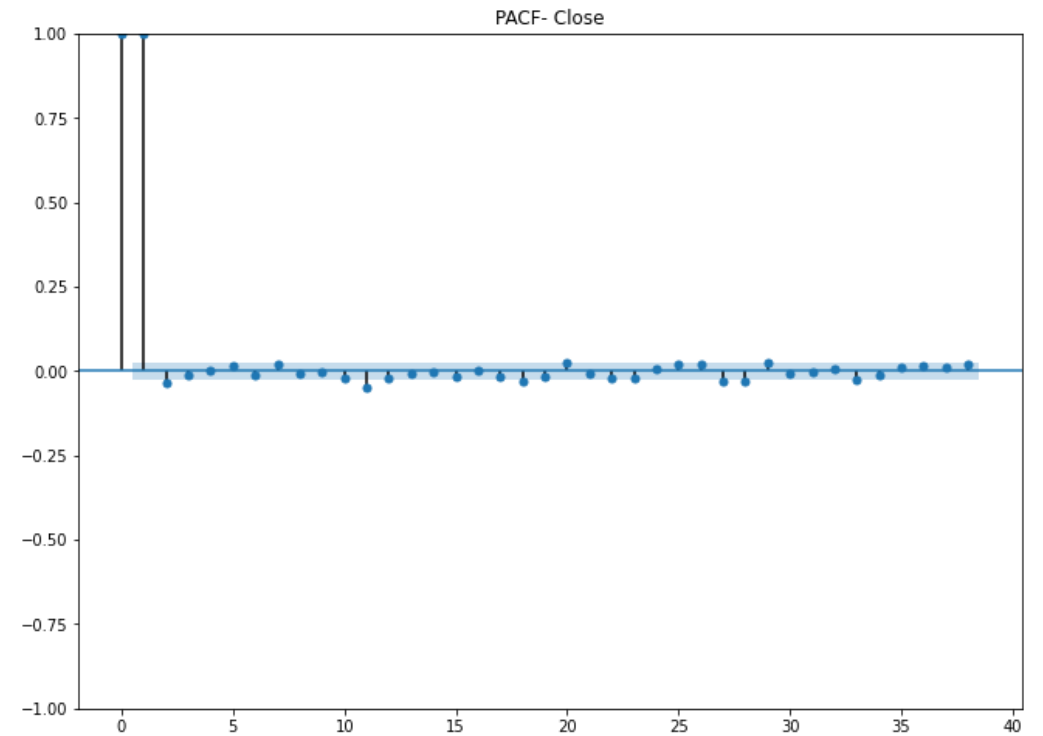# Weather History – Train Test Split
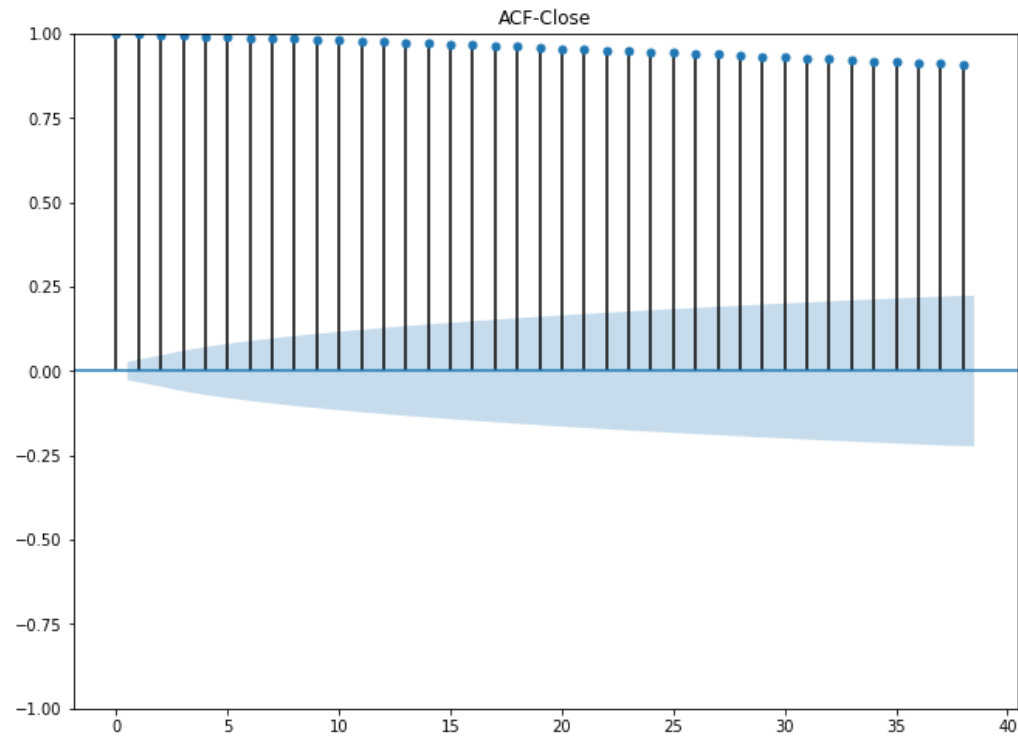
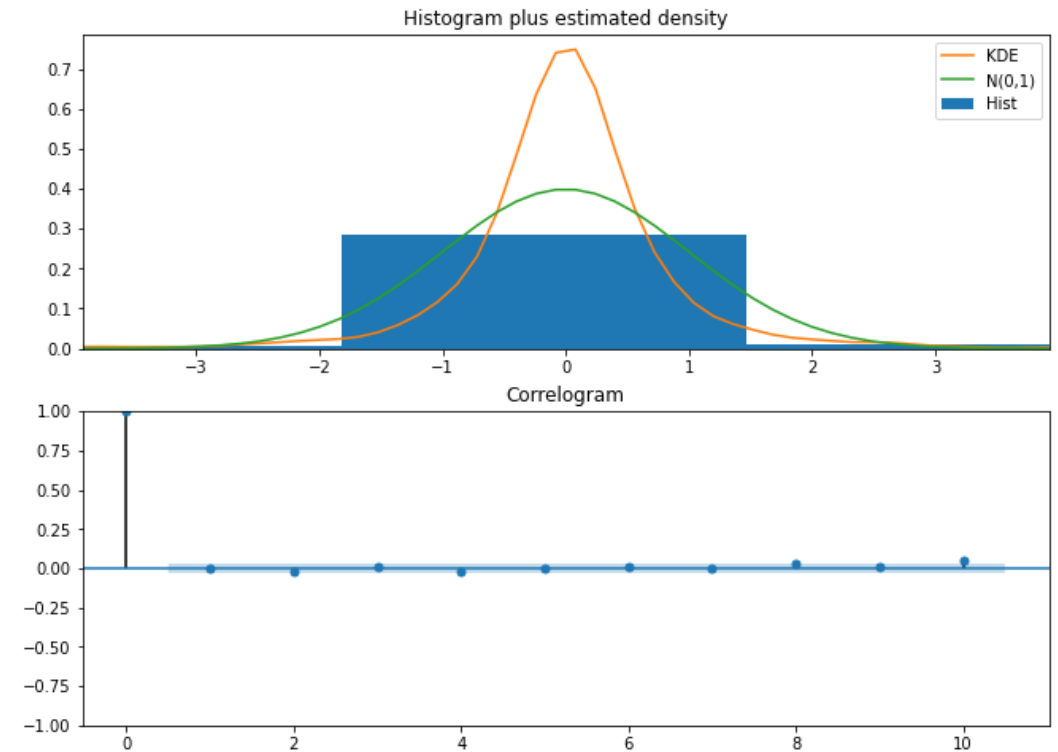# Weather History – Predictions

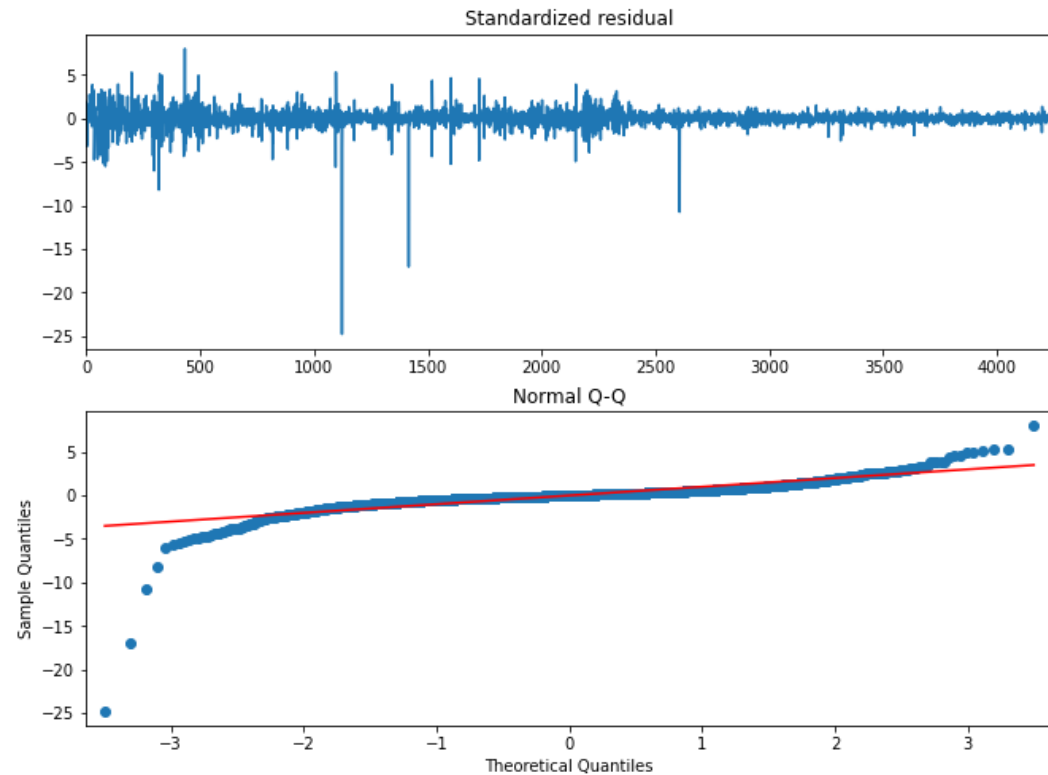Temperature Forecast

Wipro Stock - Seasonality
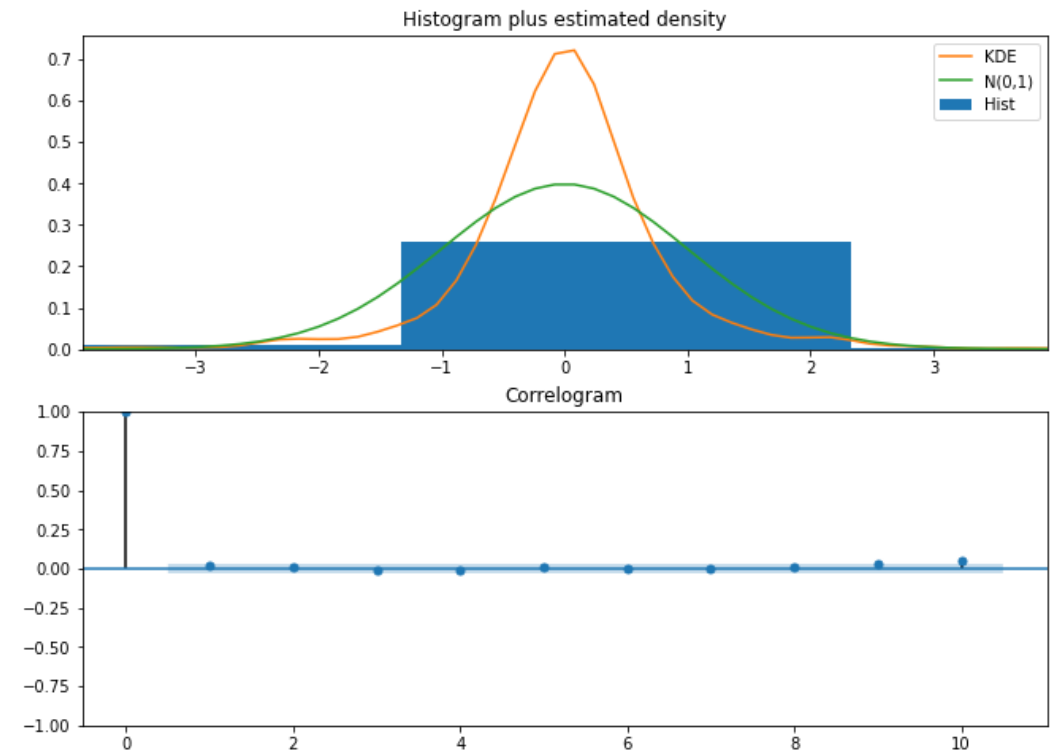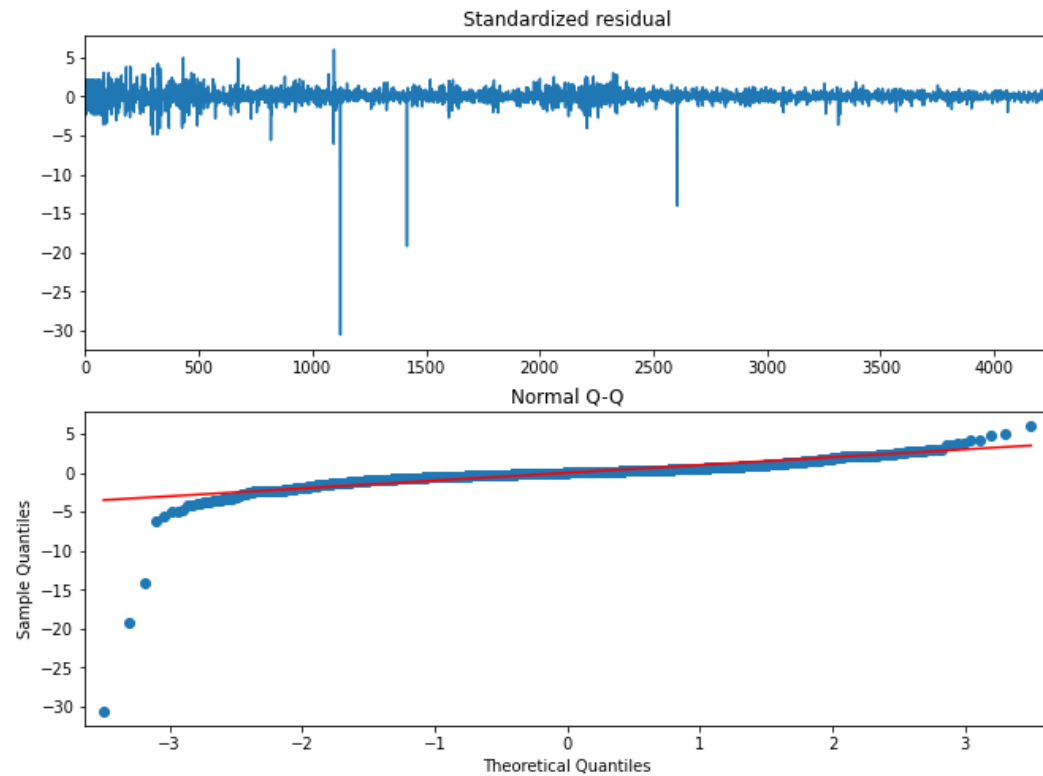
Wipro Stock – ACF & PACF (Open)

Wipro Stock – ACF & PACF (Close)
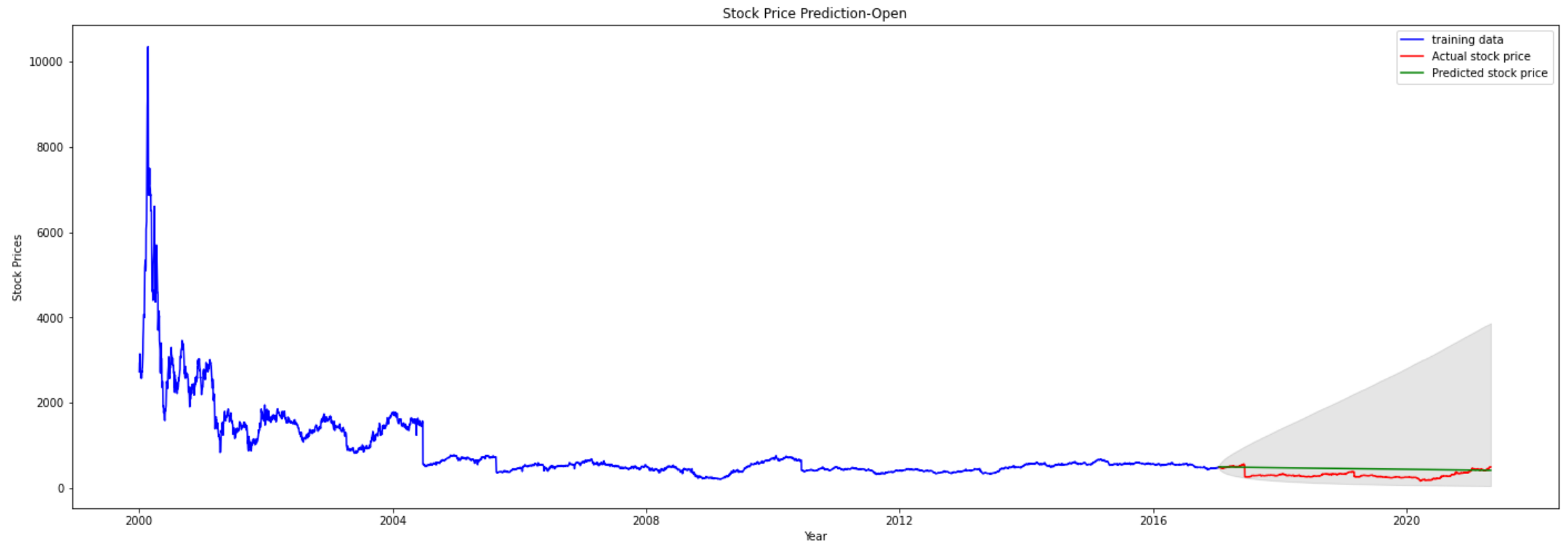
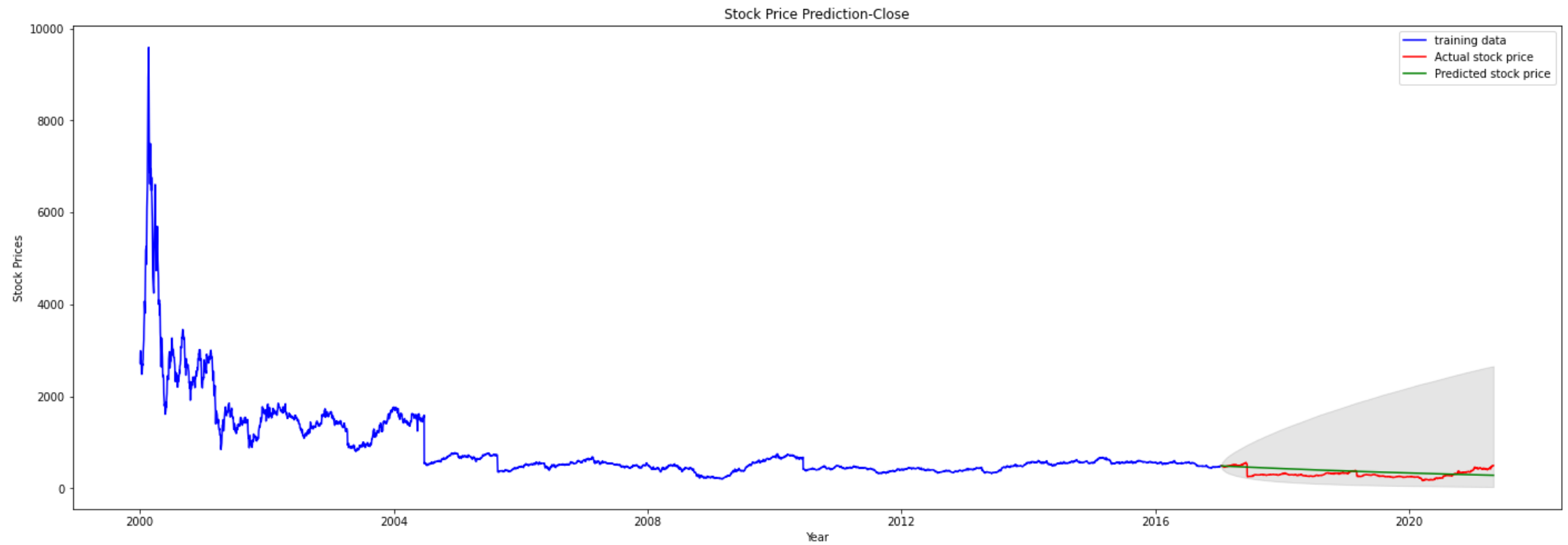# Wipro Stock – SARIMA (Open)

Wipro Stock – SARIMA (Close)

Wipro Stock – Predictions (Open)
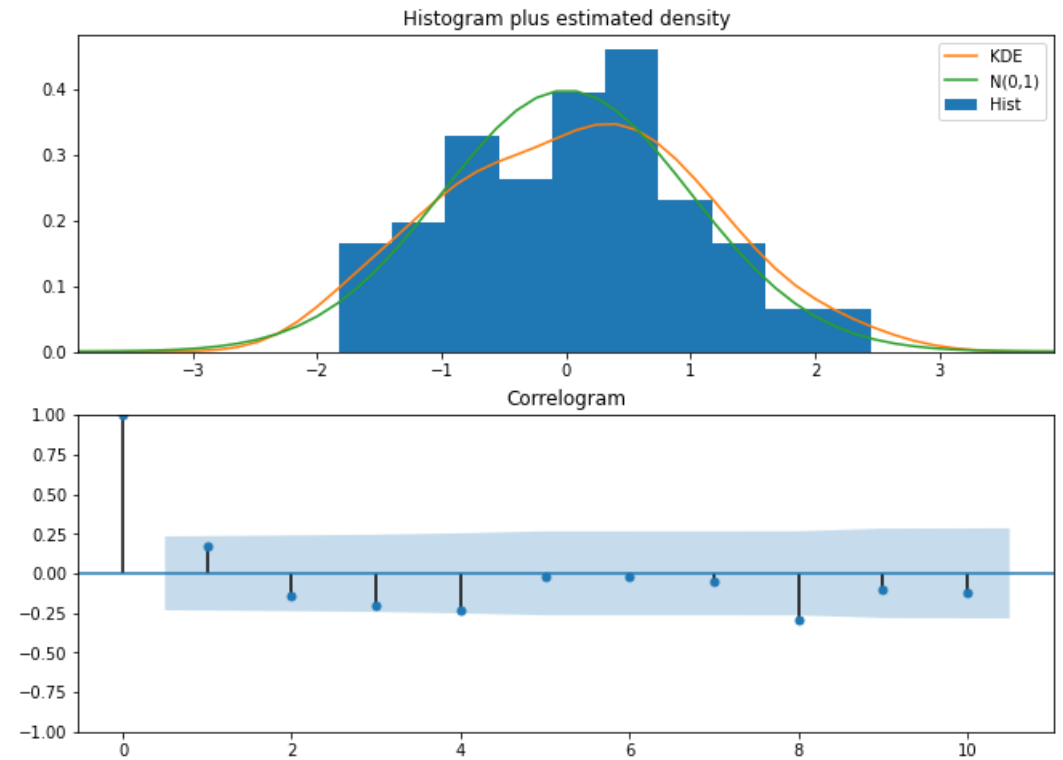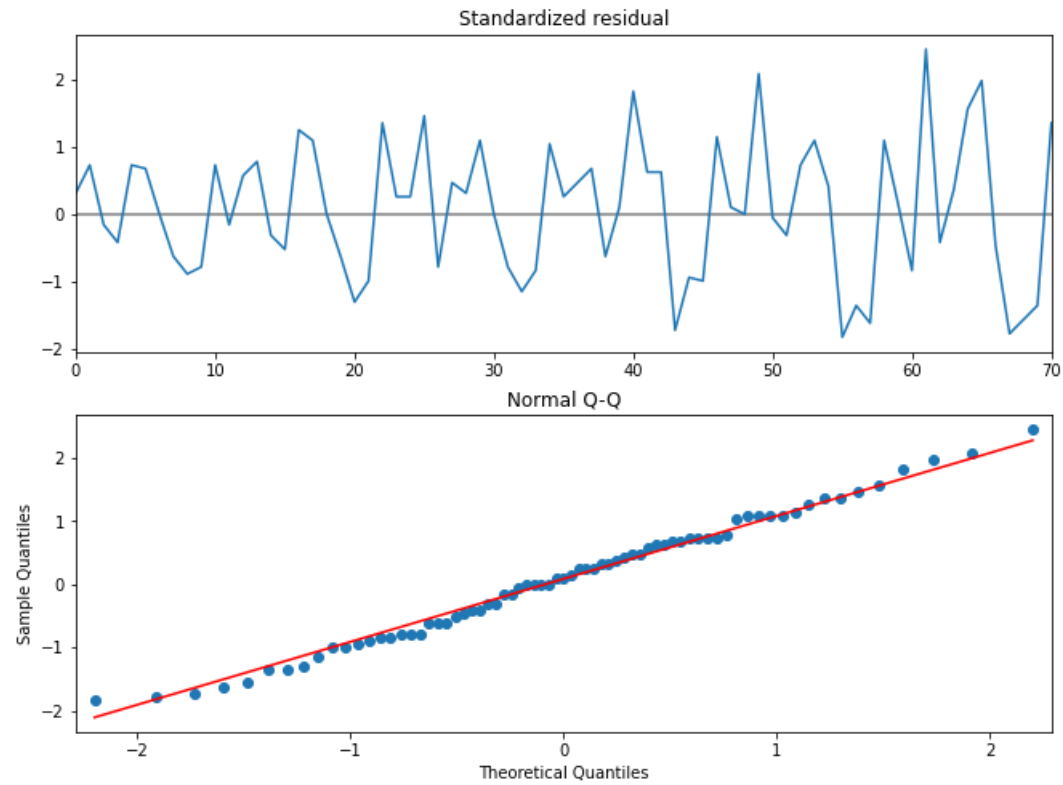

Stock Price Prediction-Open
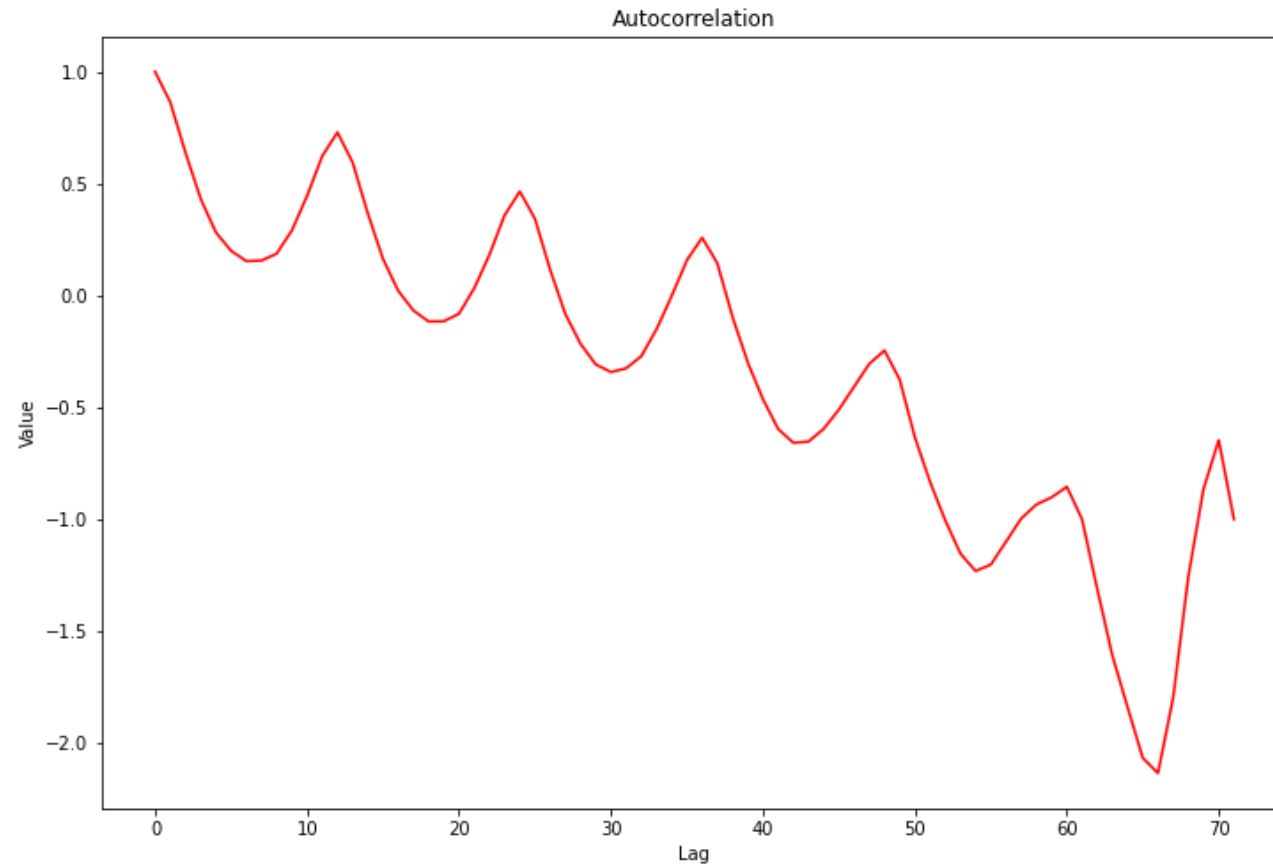
Wipro Stock – Predictions (Close)
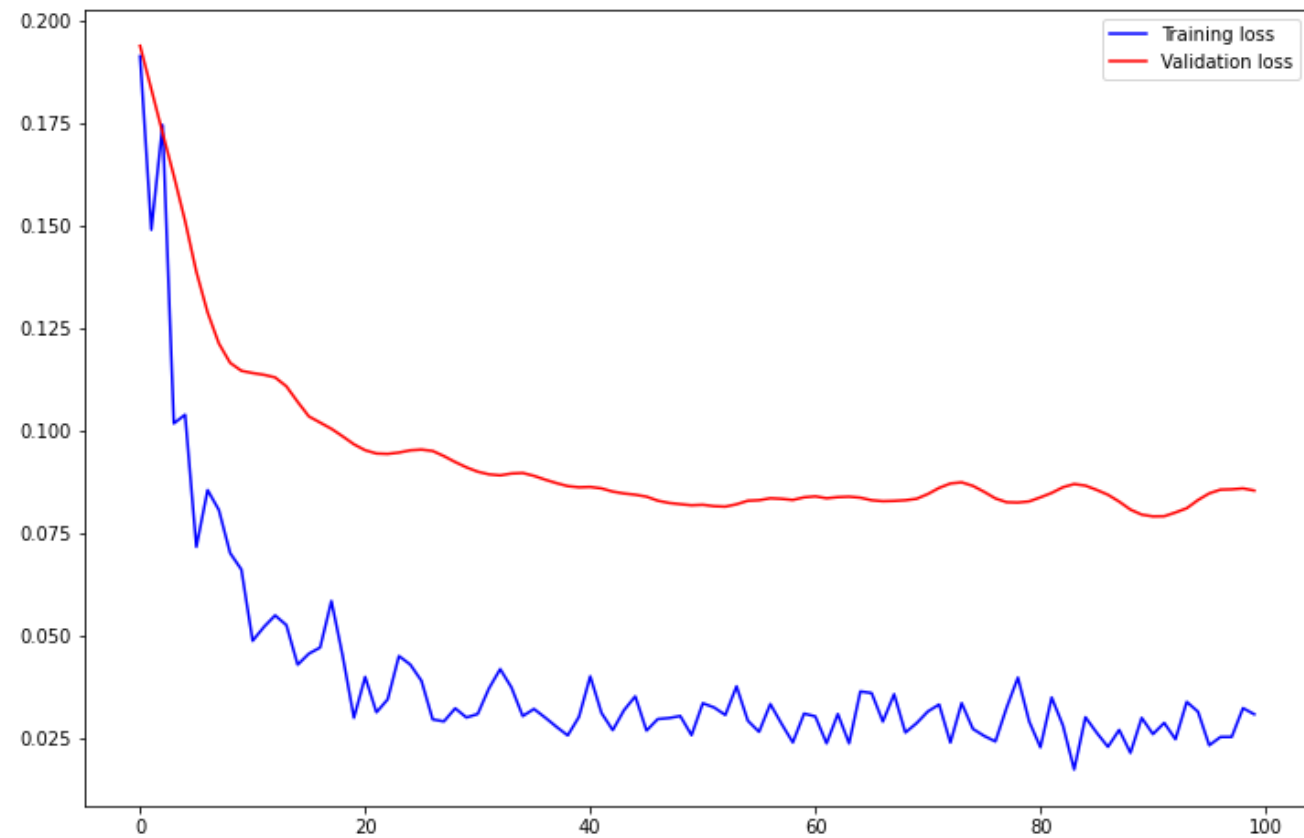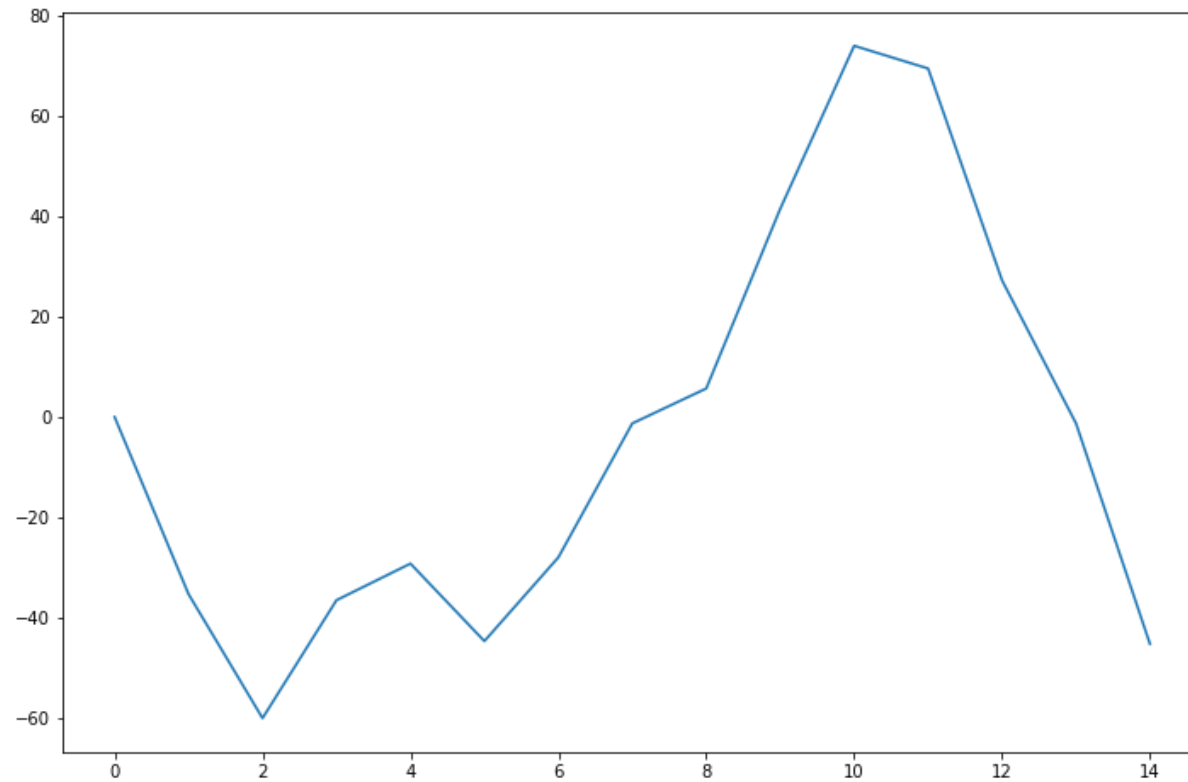
Hybrid ARIMA + ANN

Airline Passengers - ARIMA

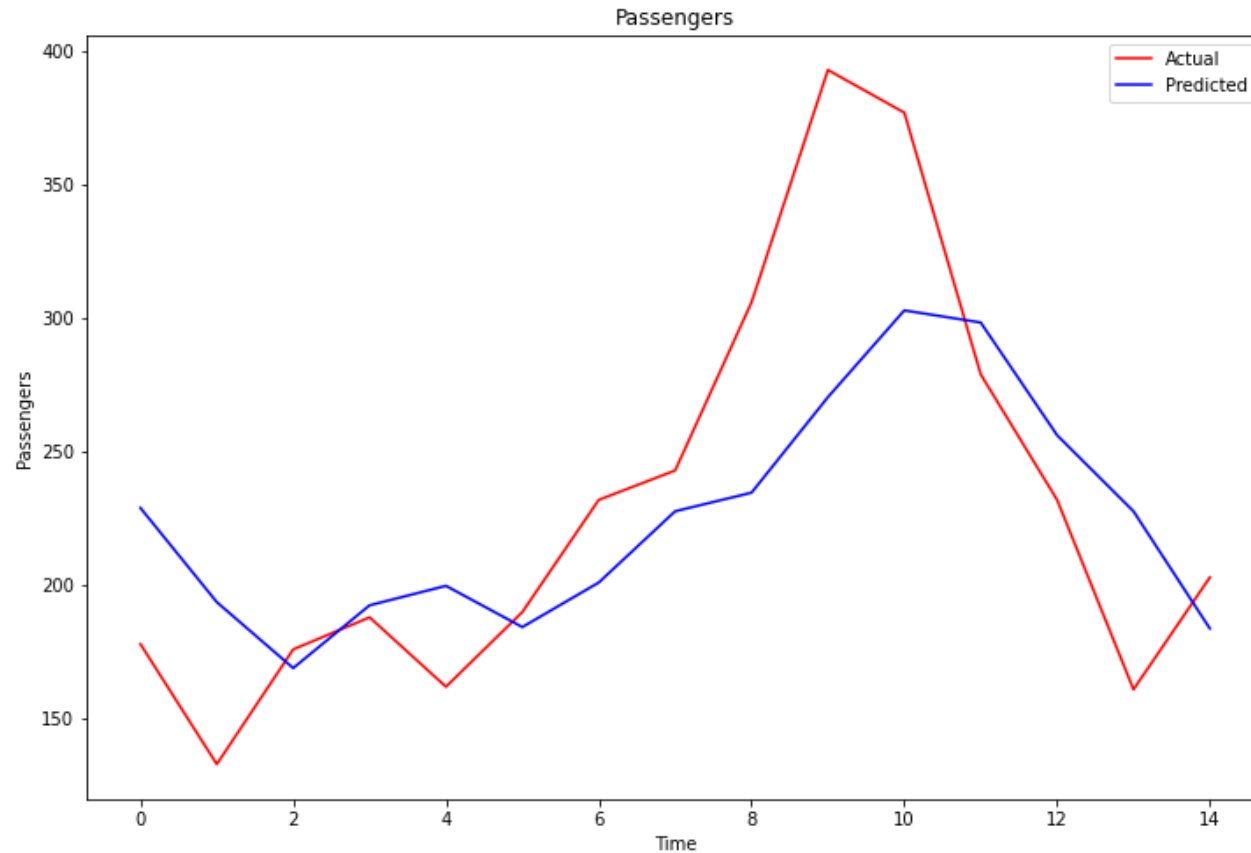# Airline Passengers - Residuals

Airline Passengers – MLP Loss

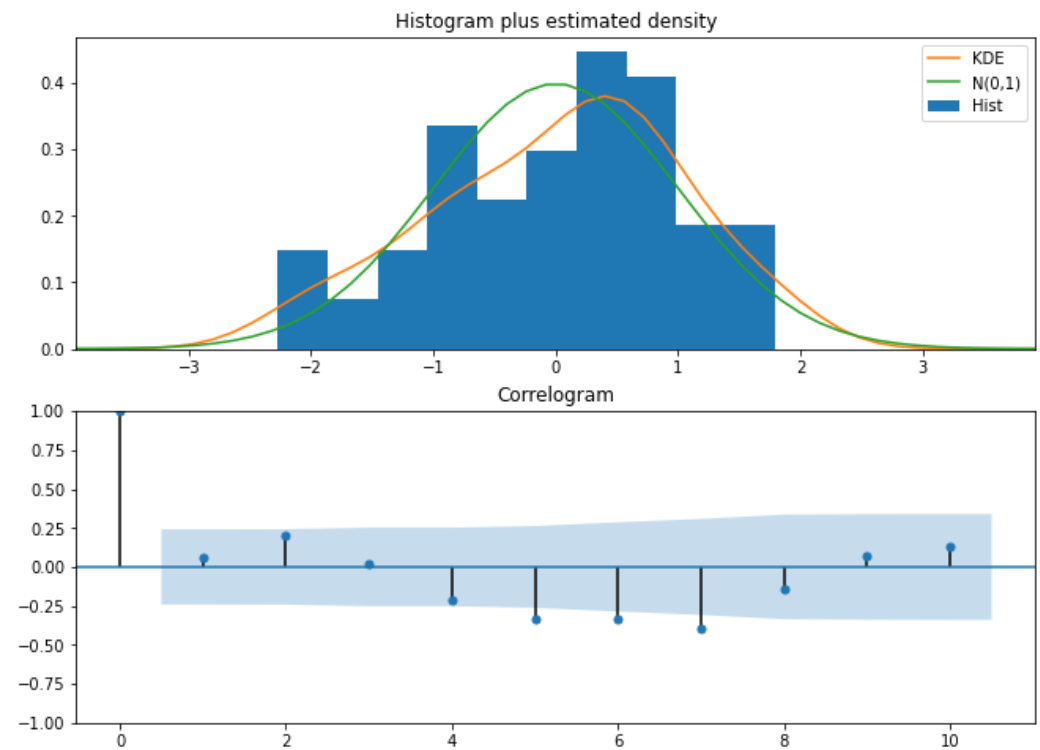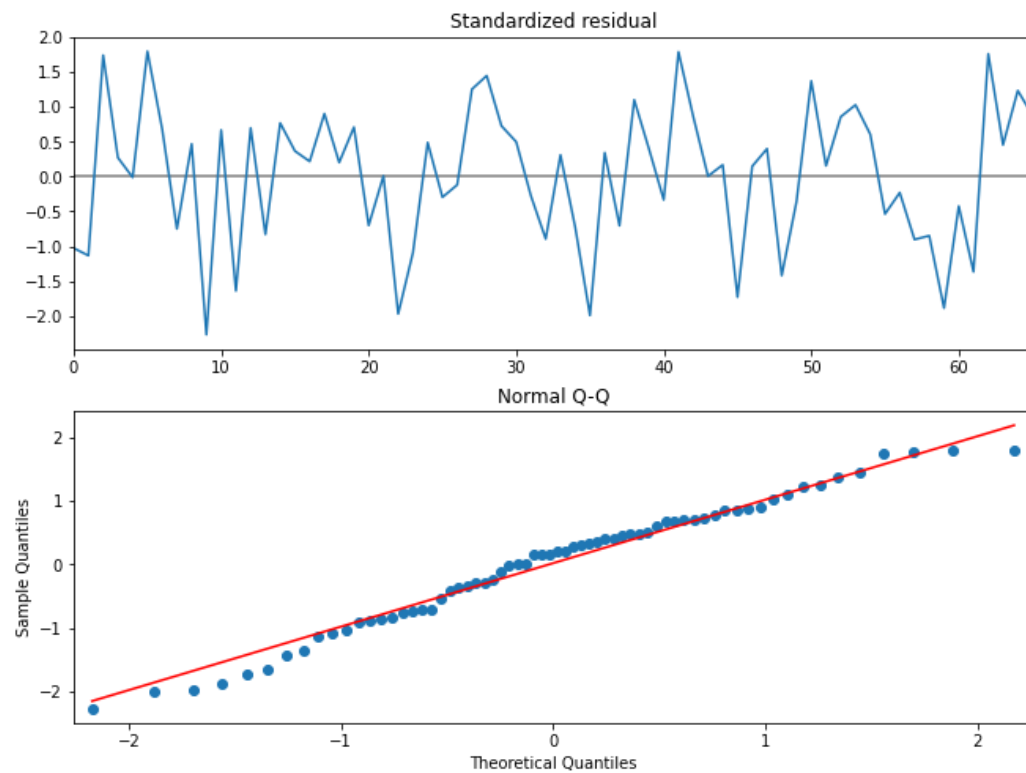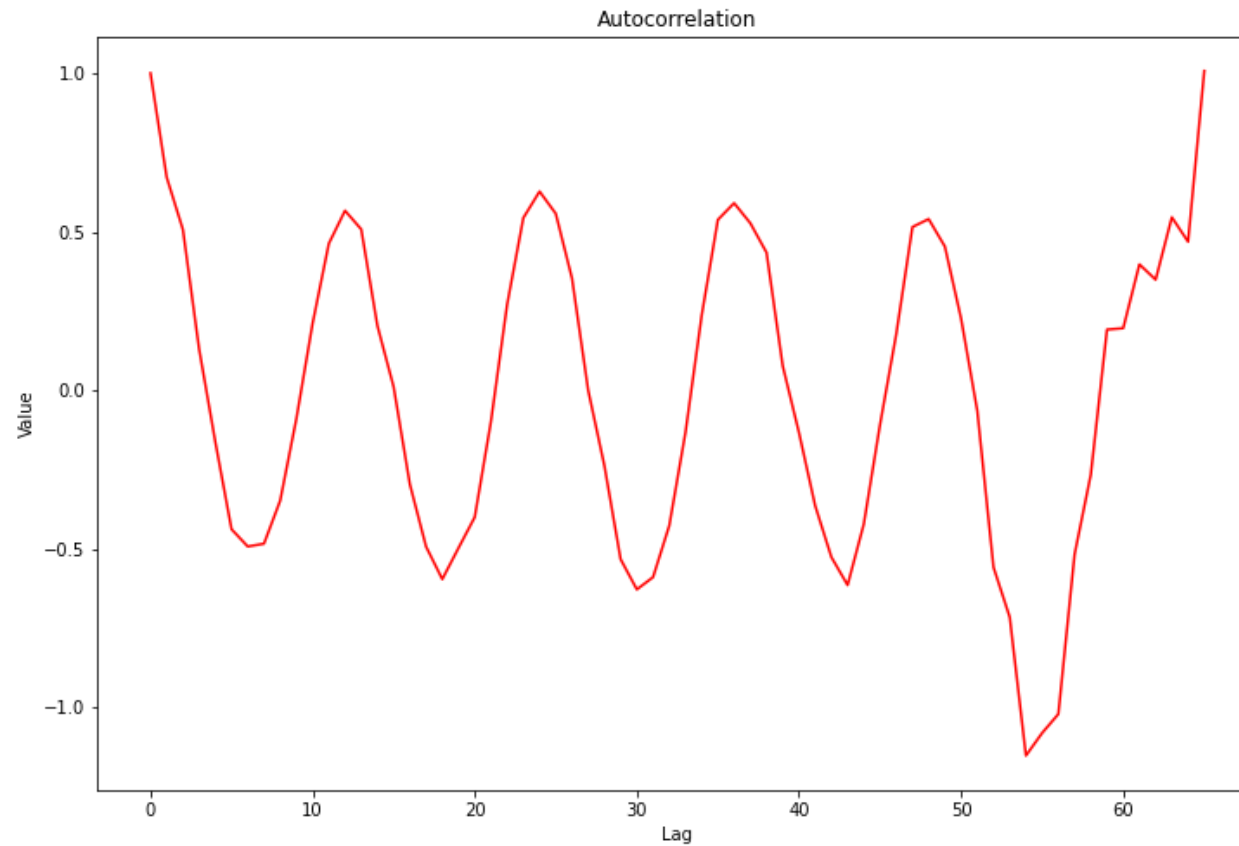# Airline Passengers – MLP Predictions

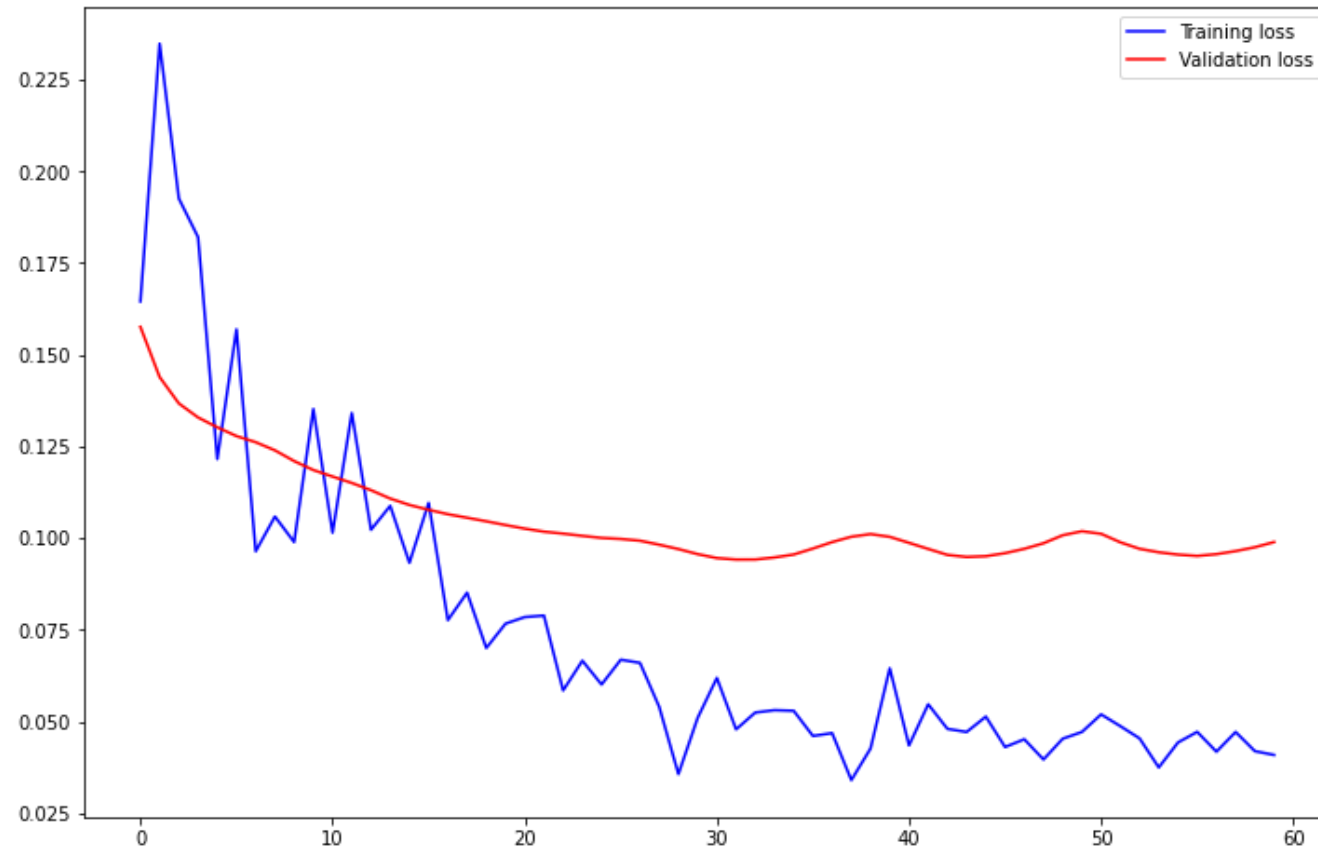# Airline Passengers – Final Predictions

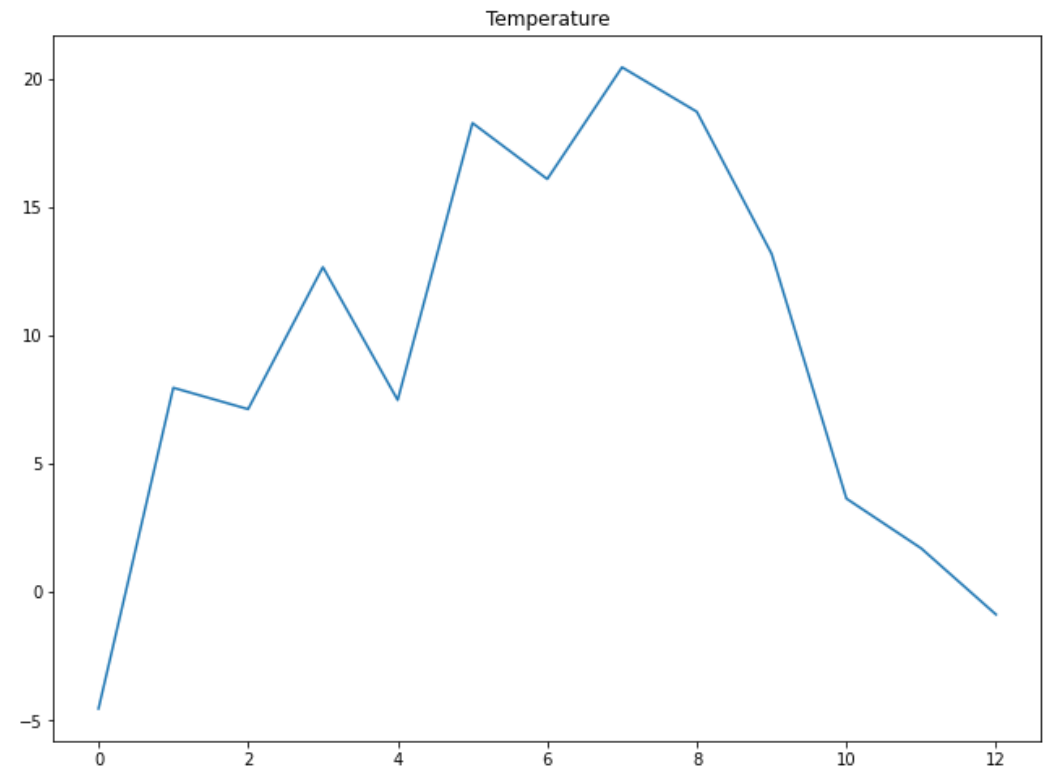# Weather History – ARIMA

Weather History – Residuals
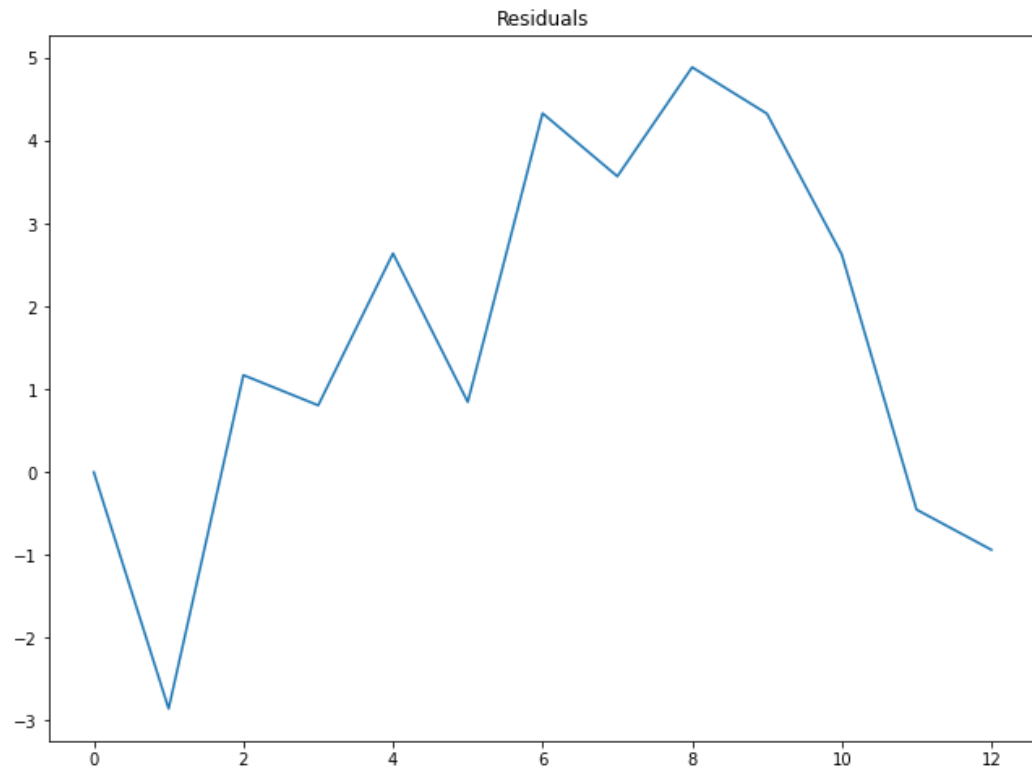
Weather History – MLP Loss

Weather History – MLP Predictions

Weather History – Final Predictions

Wipro Stock – ARIMA (Open)
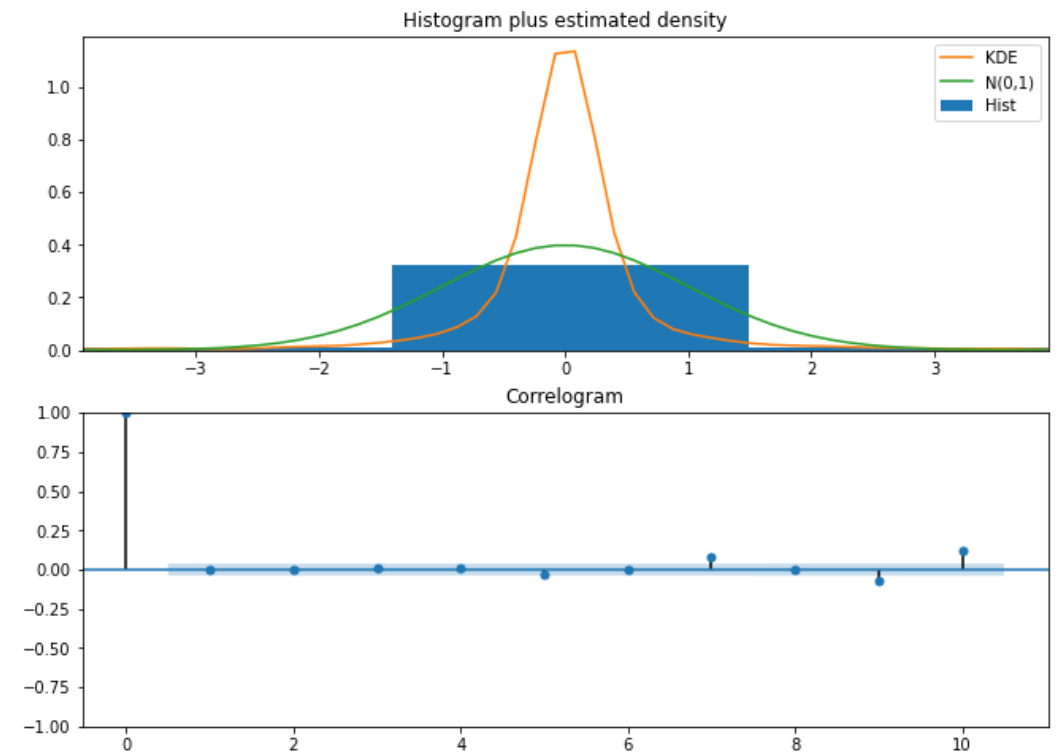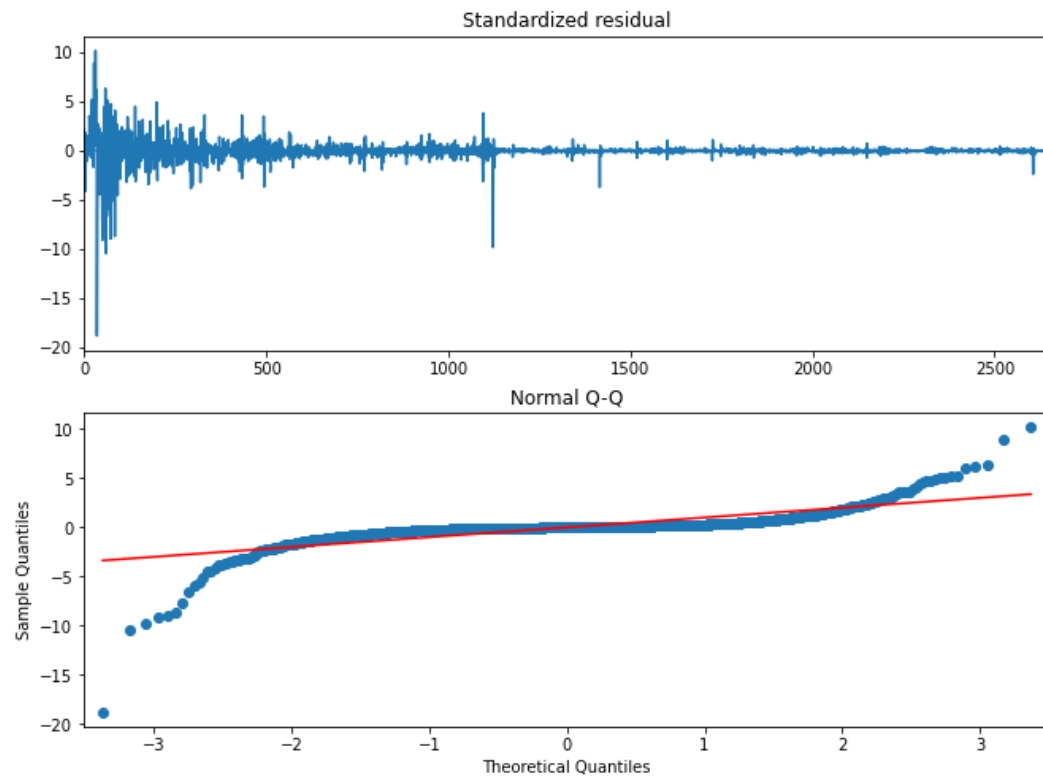
Wipro Stock – ARIMA (Close)
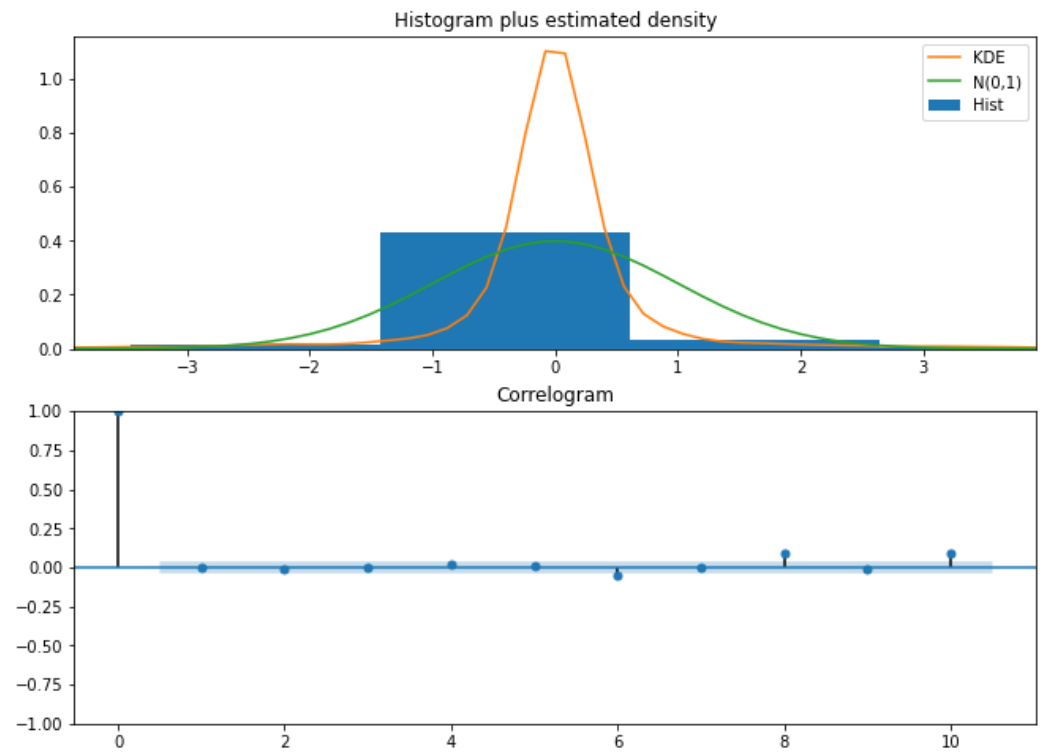
Wipro Stock – Residuals (Open)
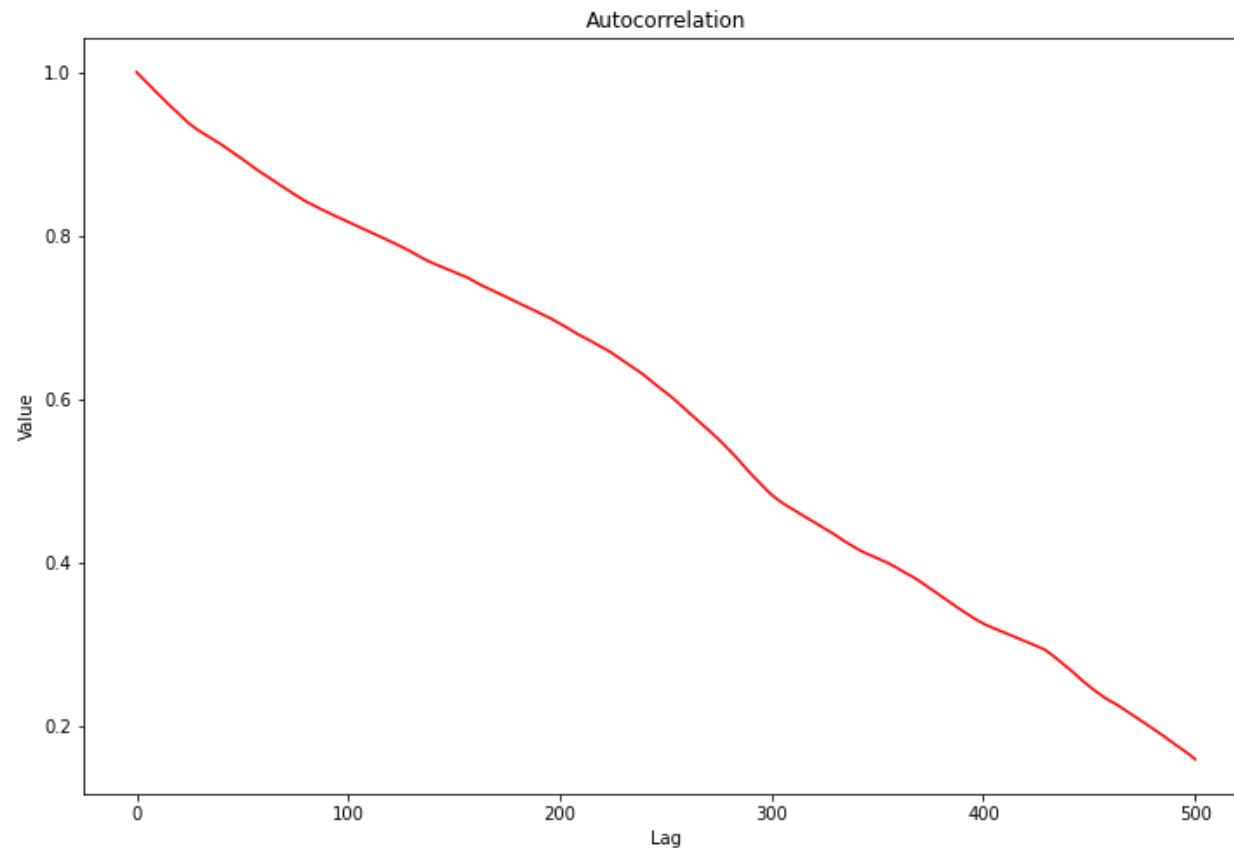
Wipro Stock – Residuals (Close)
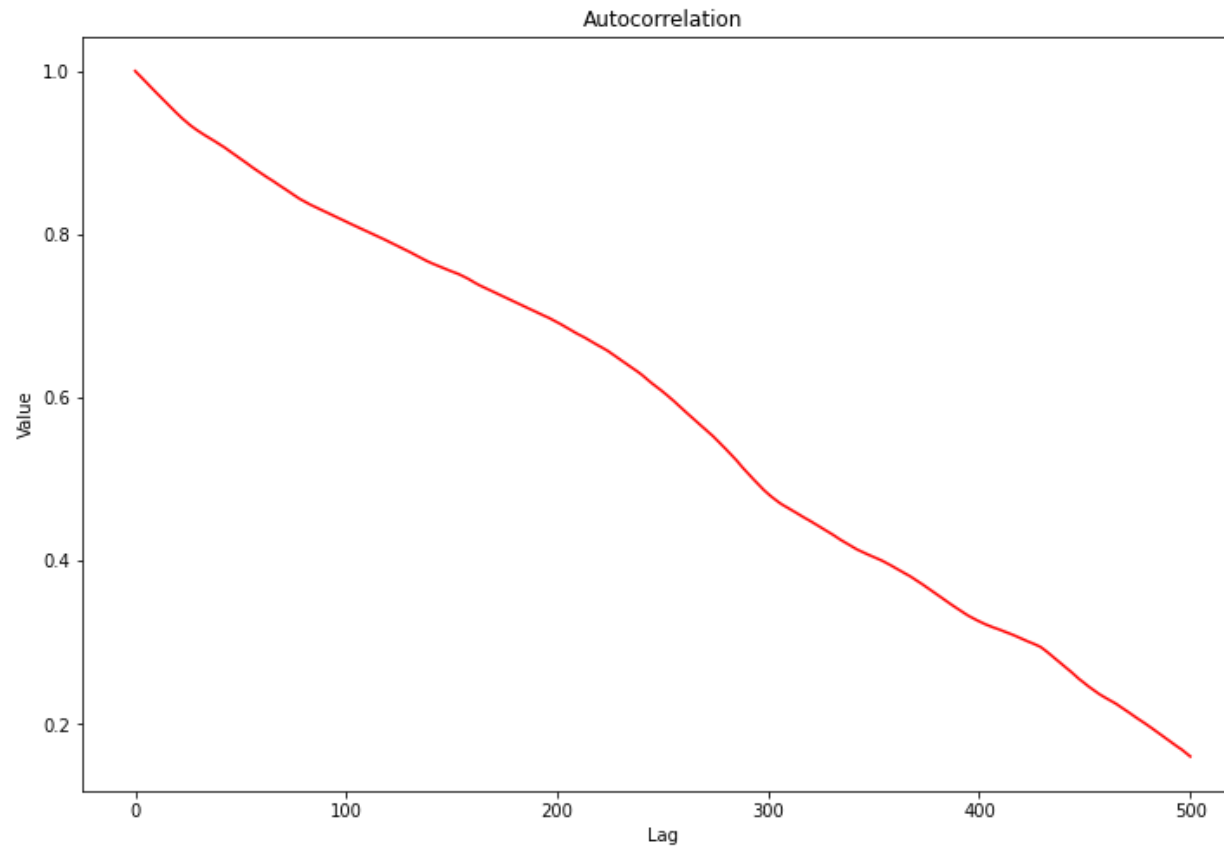
Wipro Stock – MLP Loss (Open)
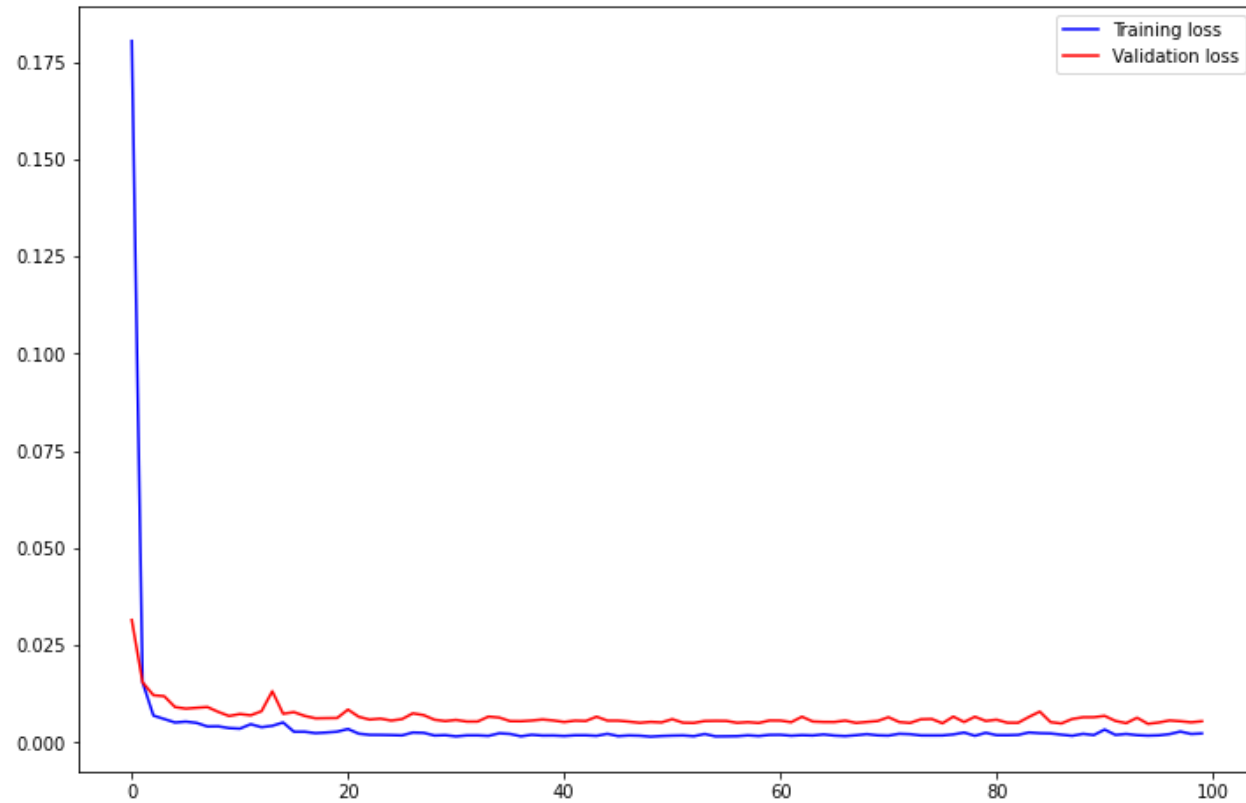
Wipro Stock – MLP Loss (Close)
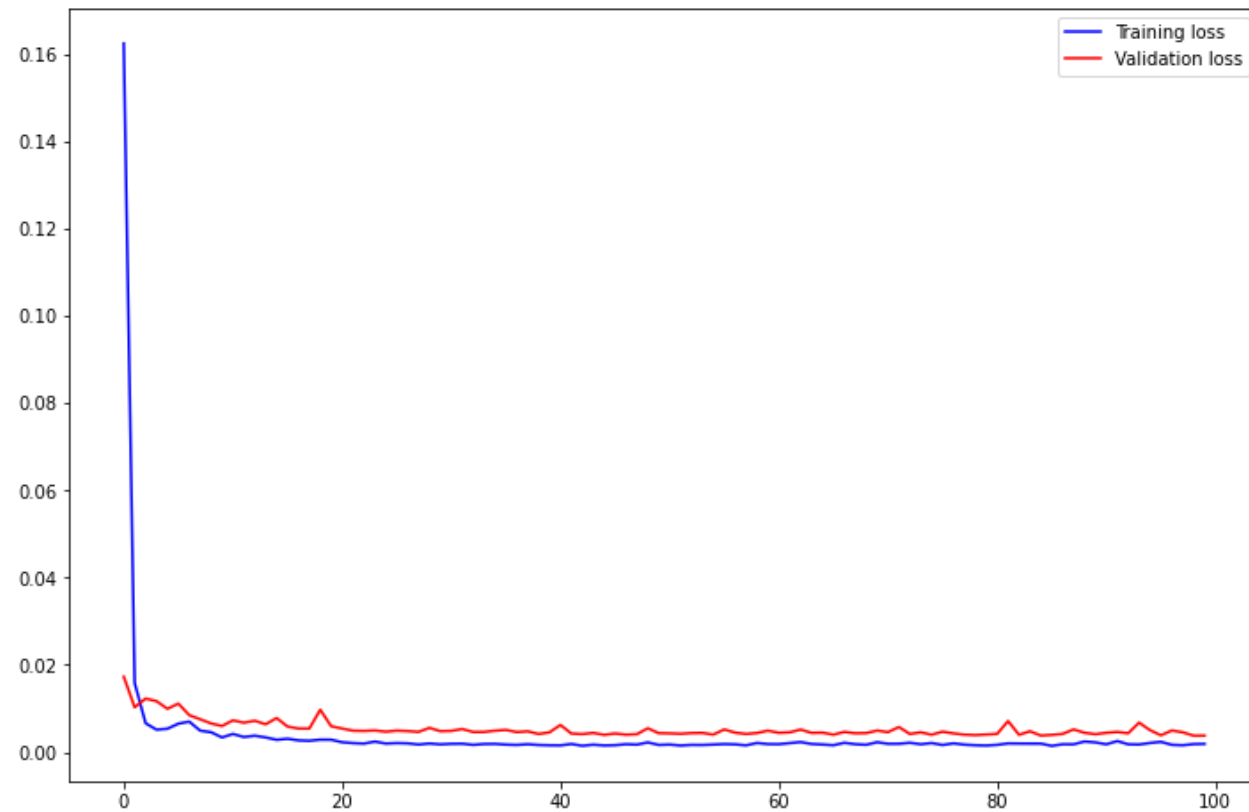
Wipro Stock – MLP Predictions (Open)
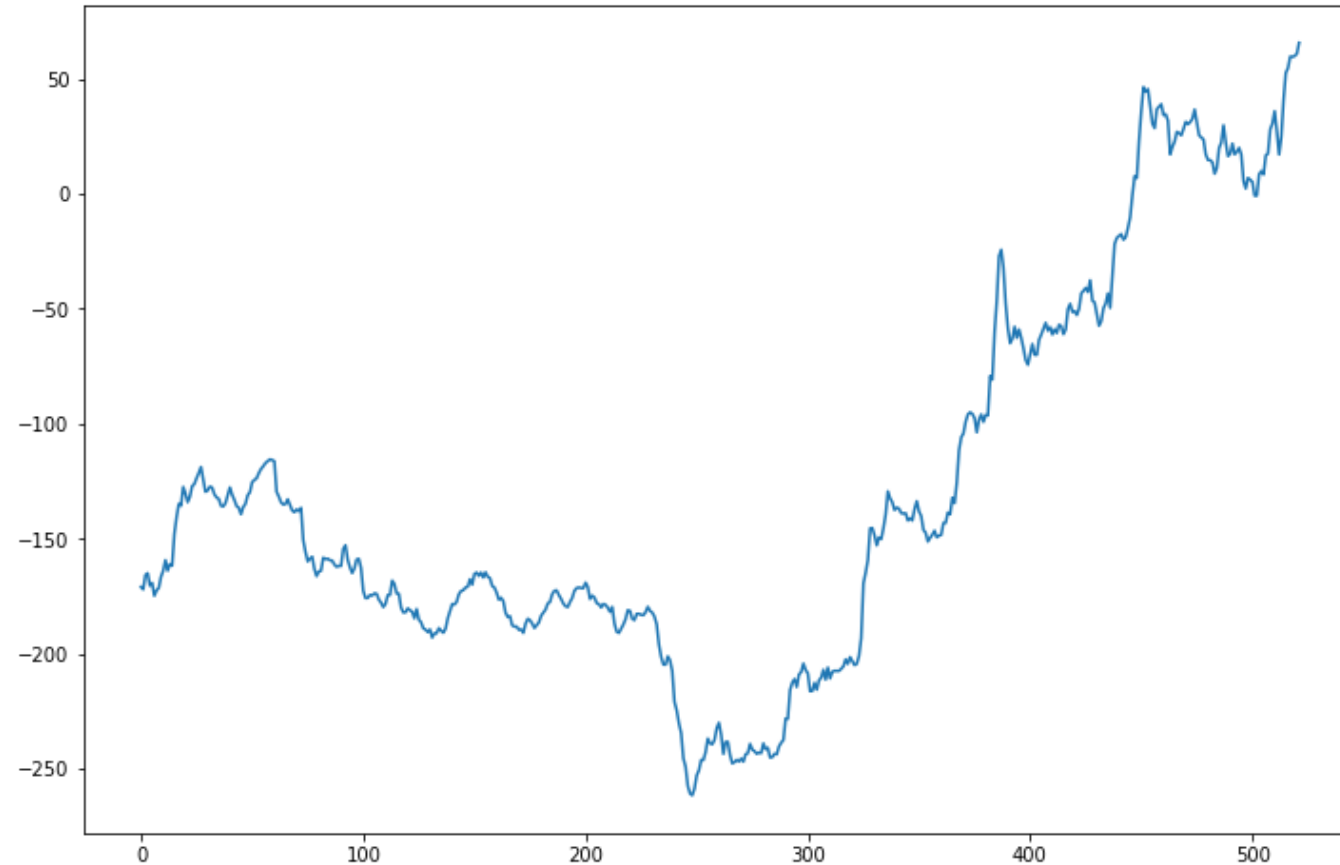
Wipro Stock – MLP Predictions (Close)

Wipro Stock – Final Predictions (Open)

Wipro Stock – Final Predictions (Close)
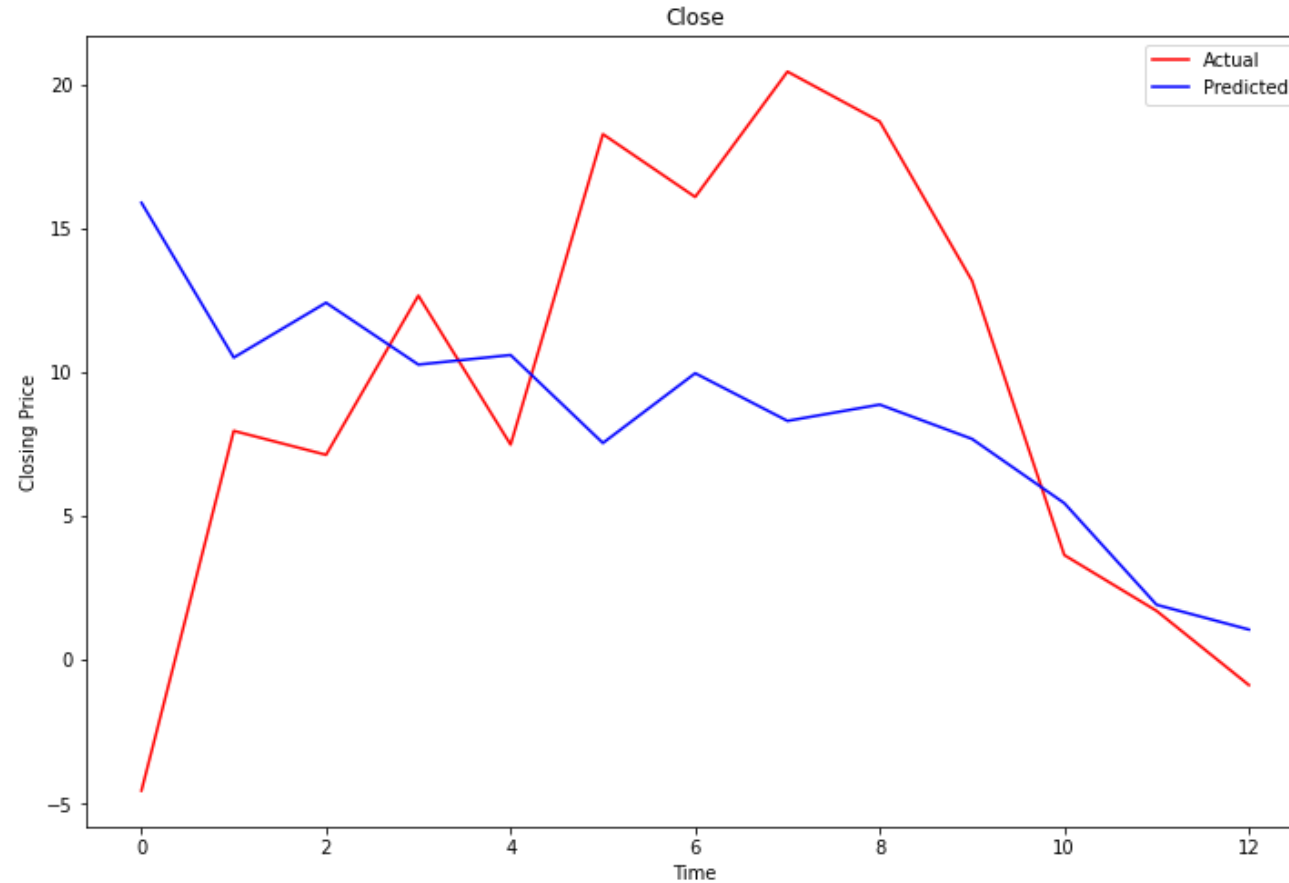
LSTM

Airline Passengers – LSTM Loss

Airline Passengers – Predictions

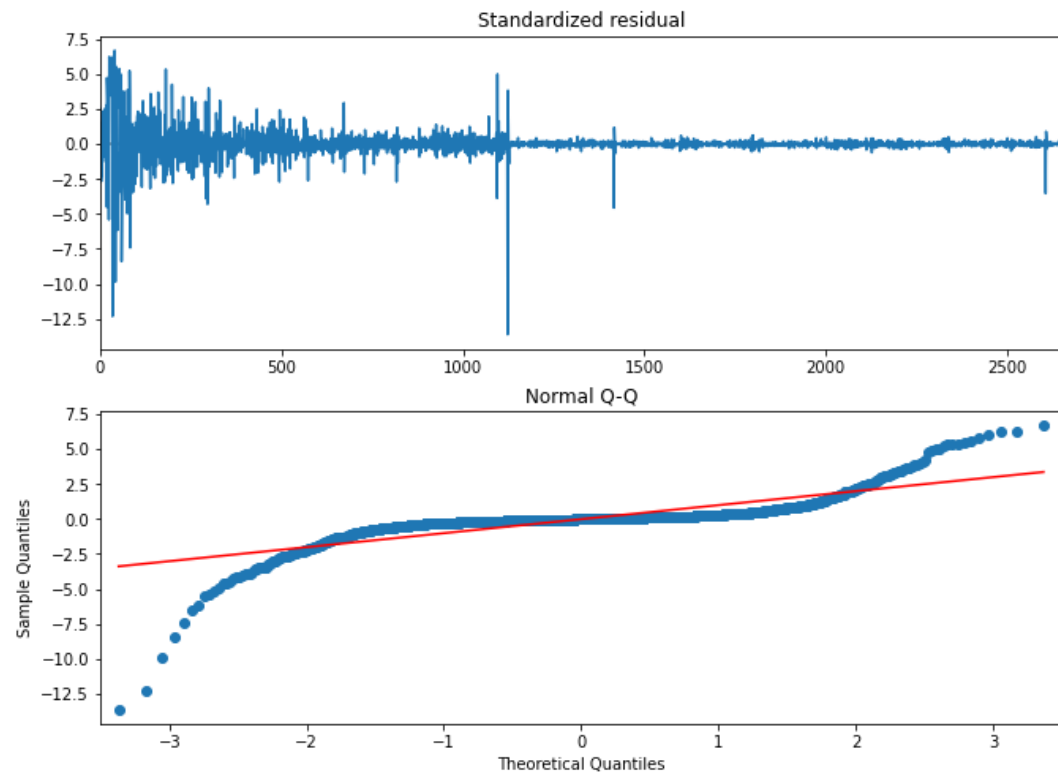# Weather History – LSTM Loss

Weather History – Predictions

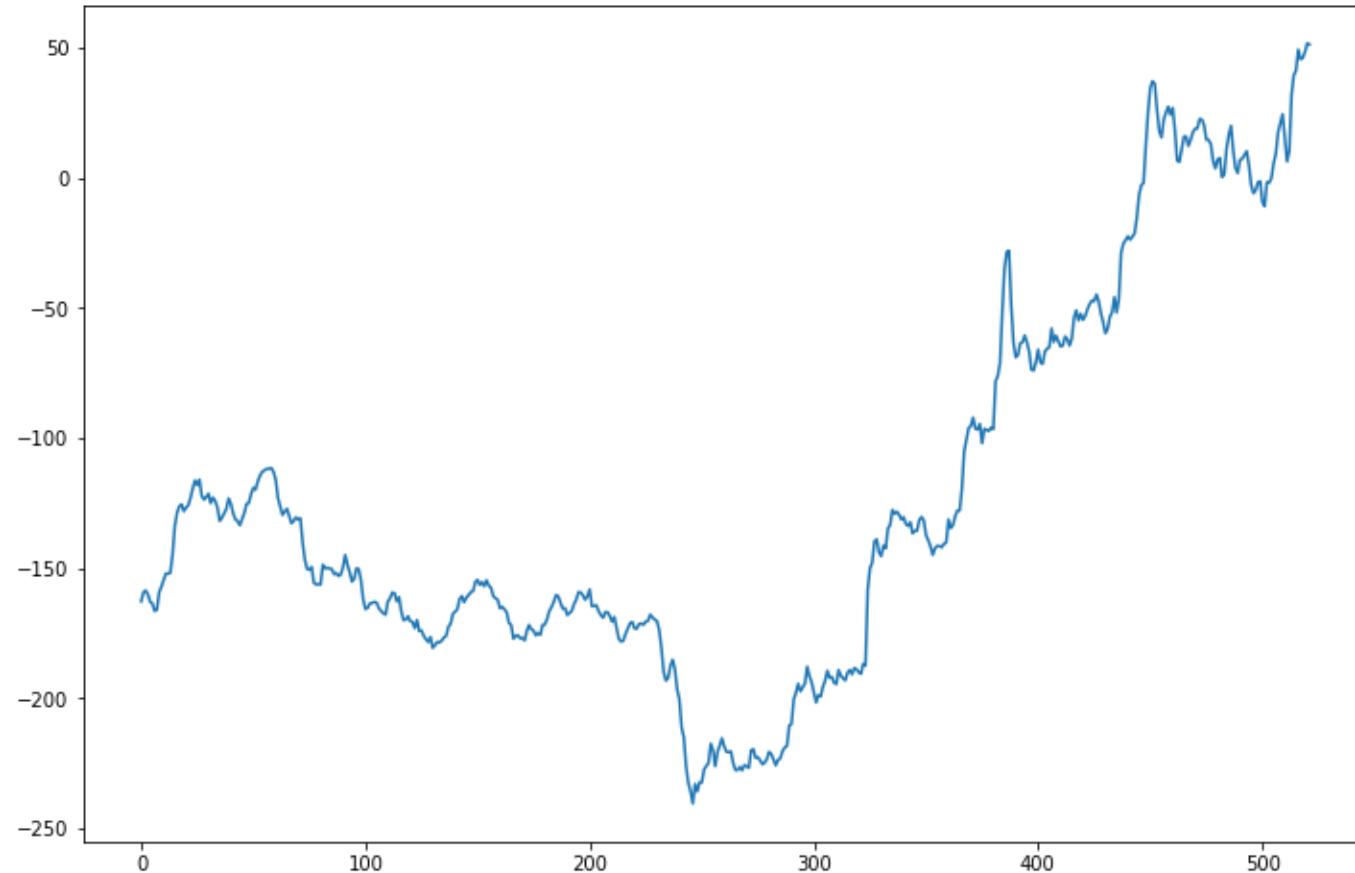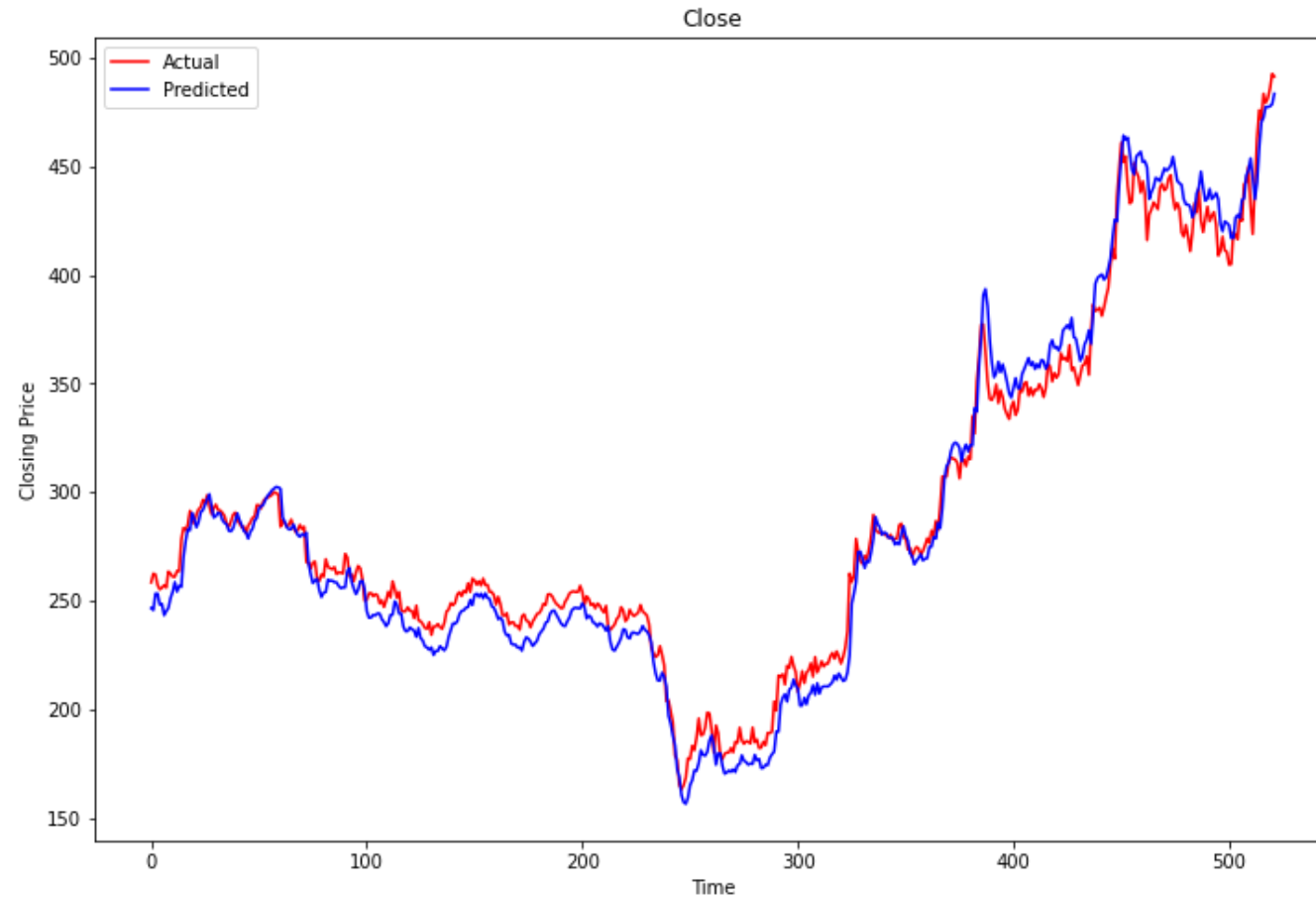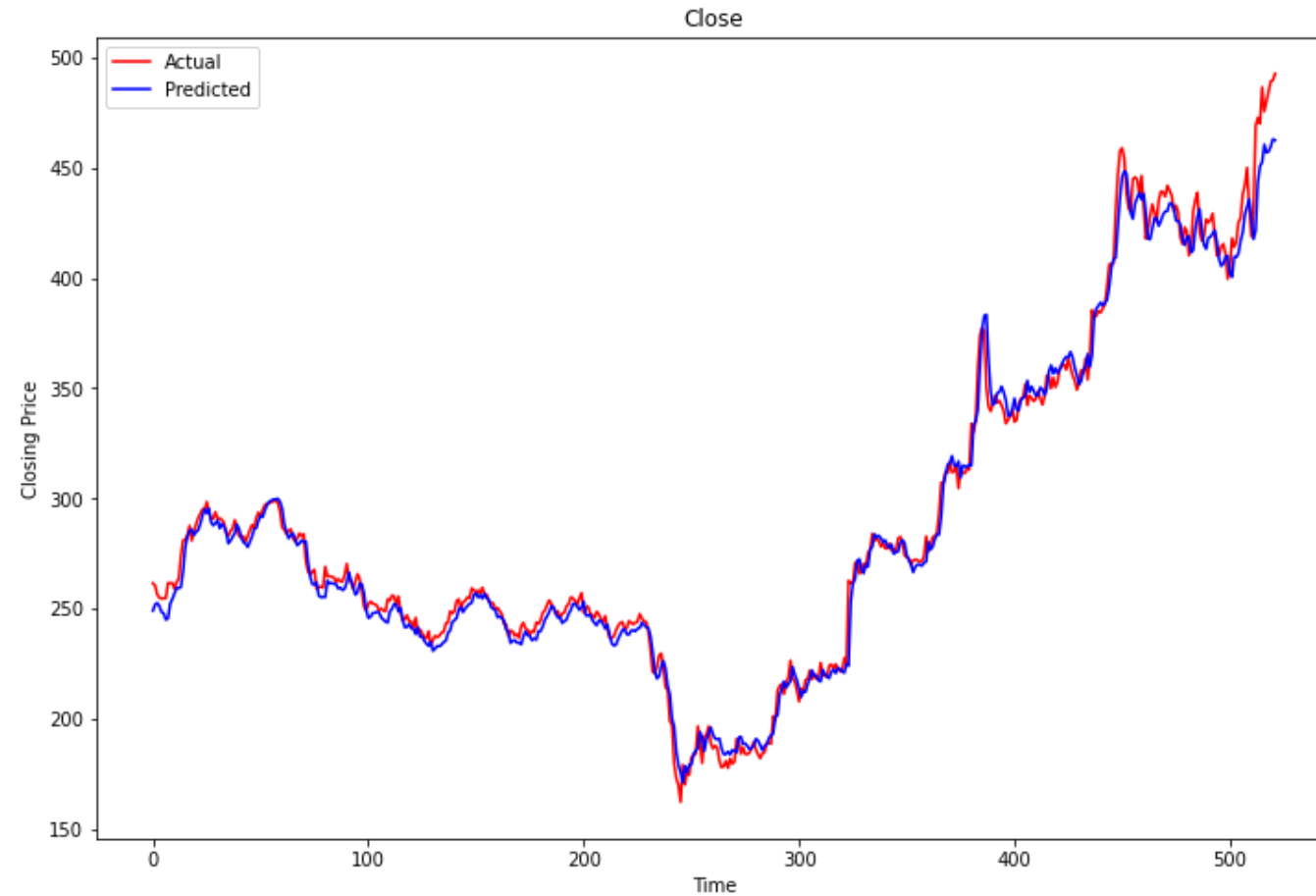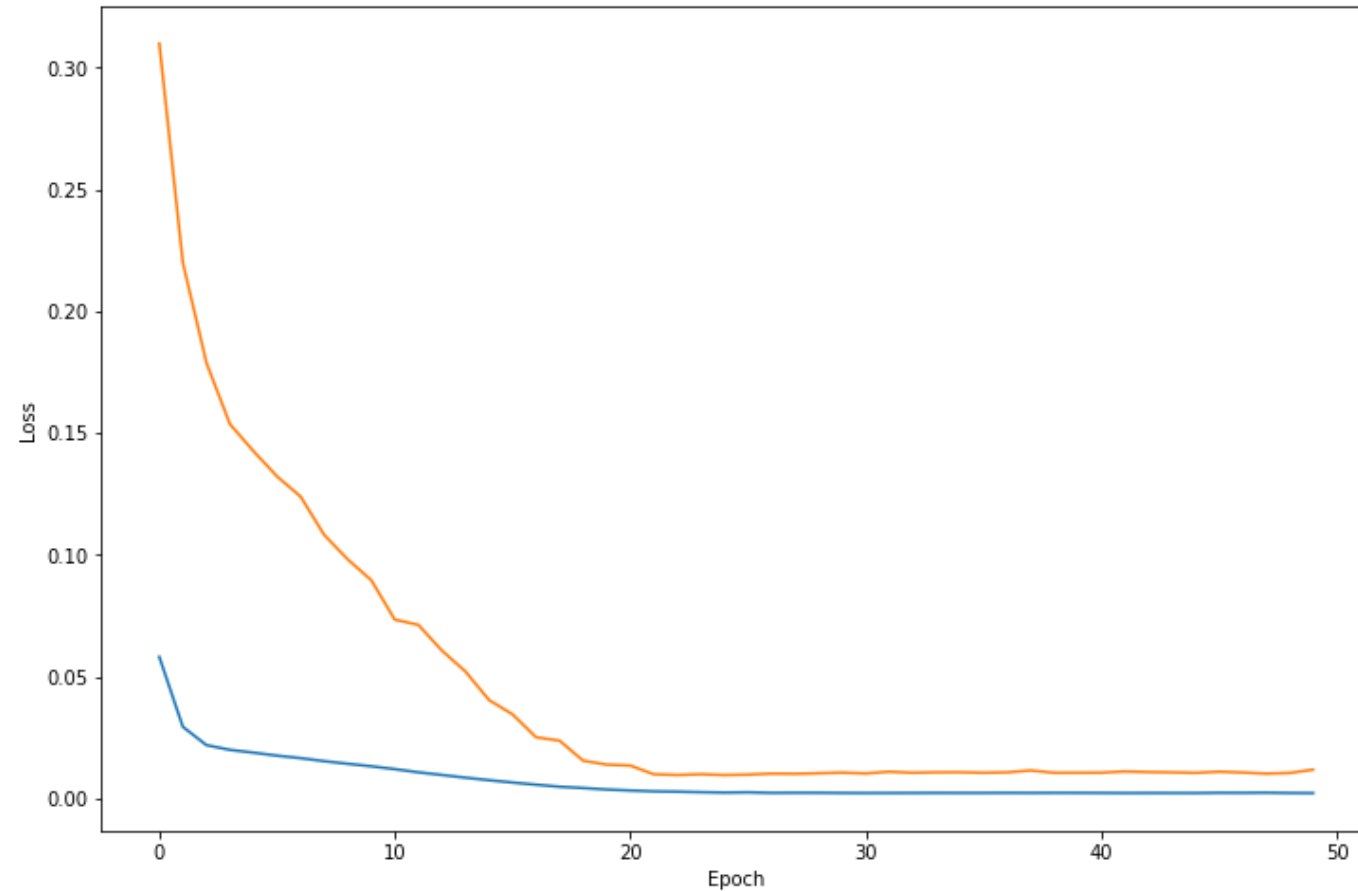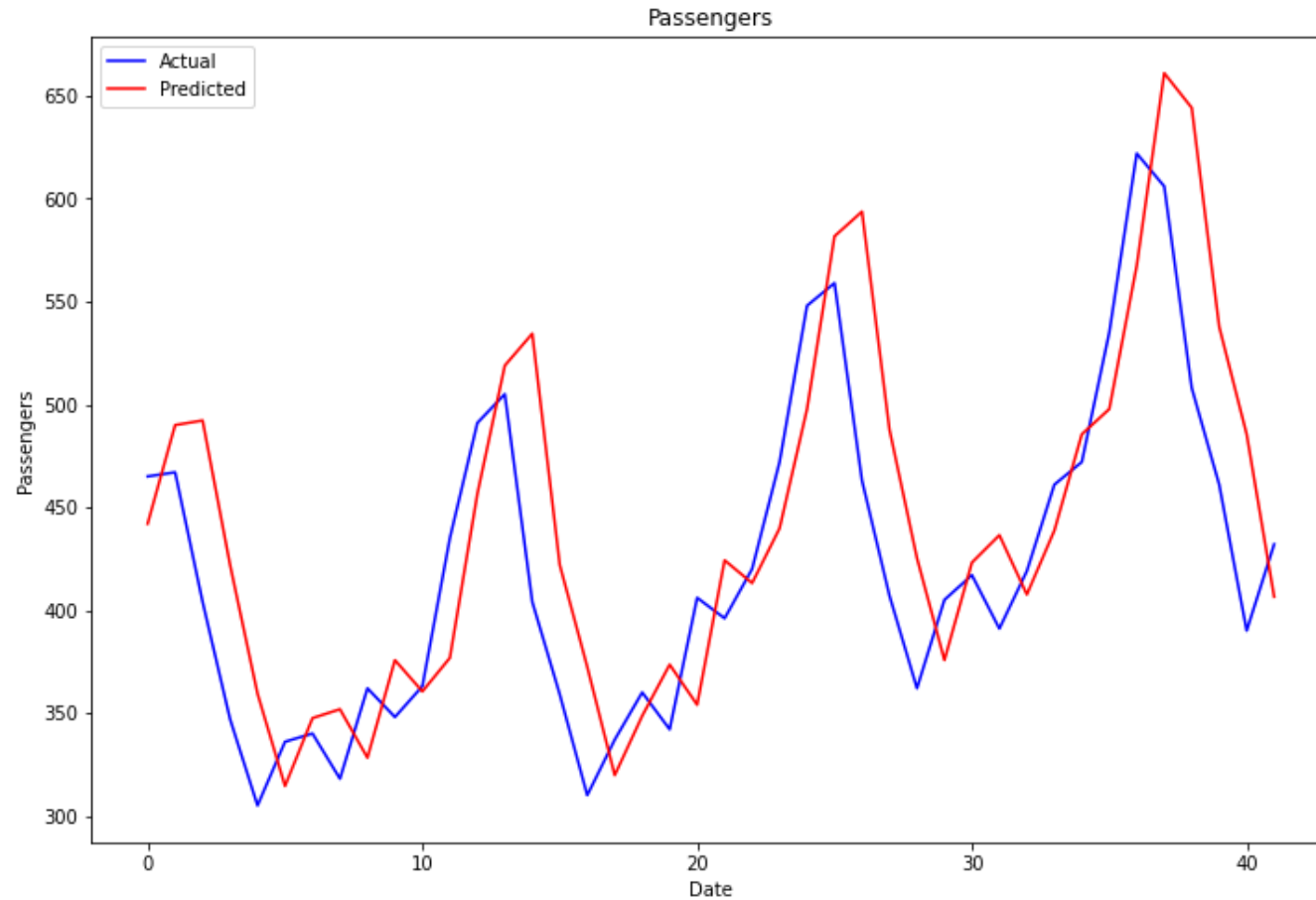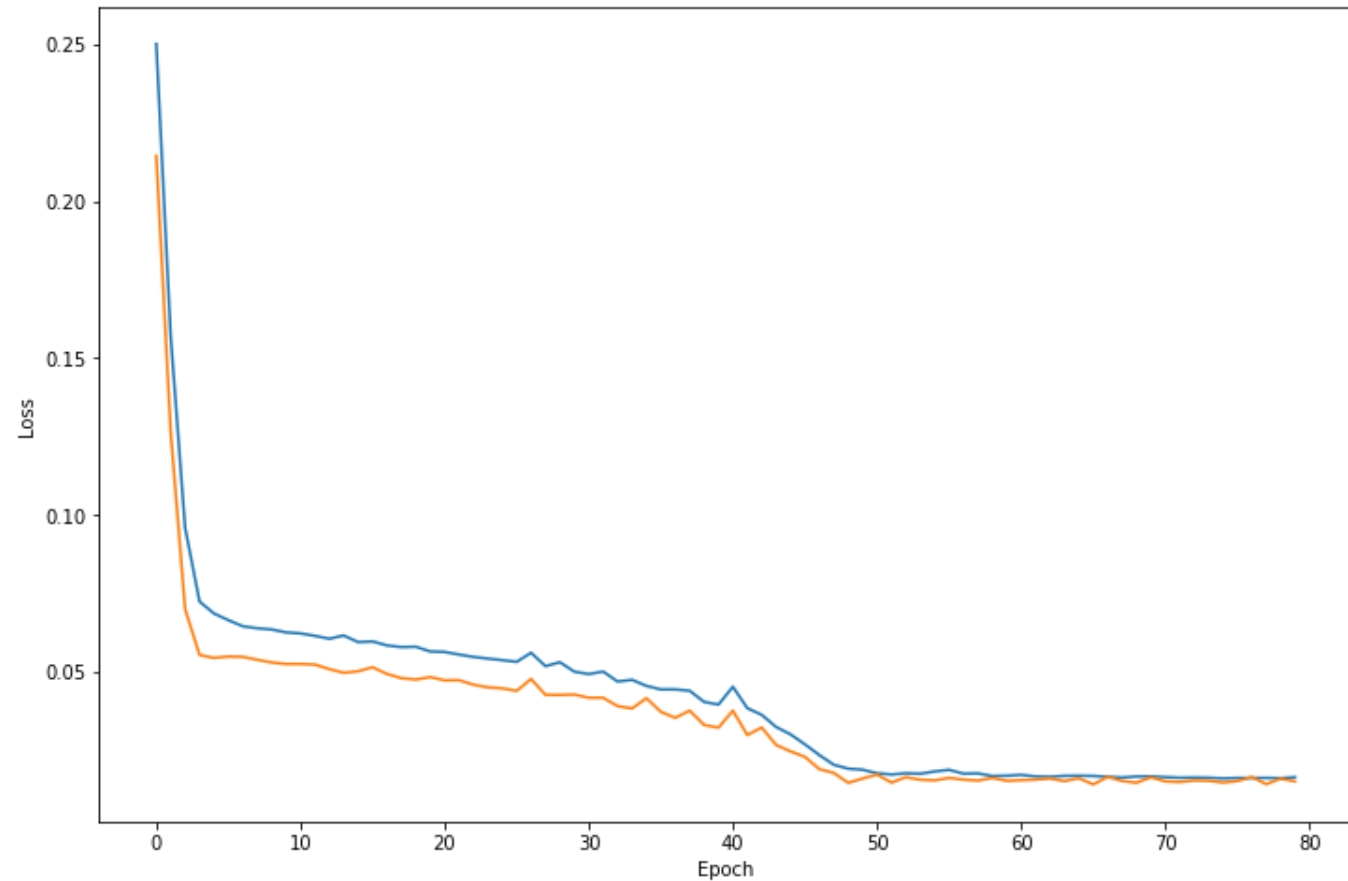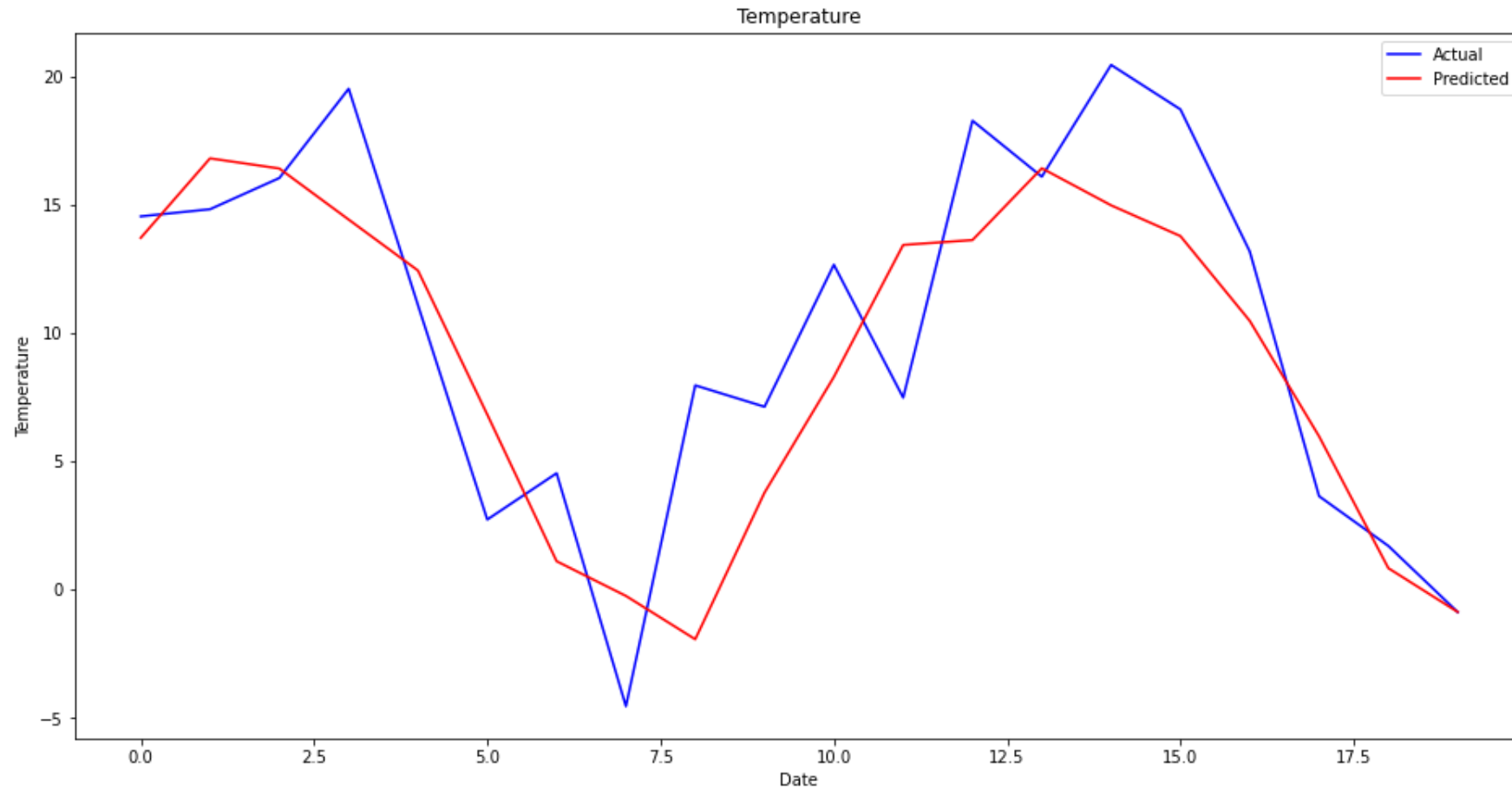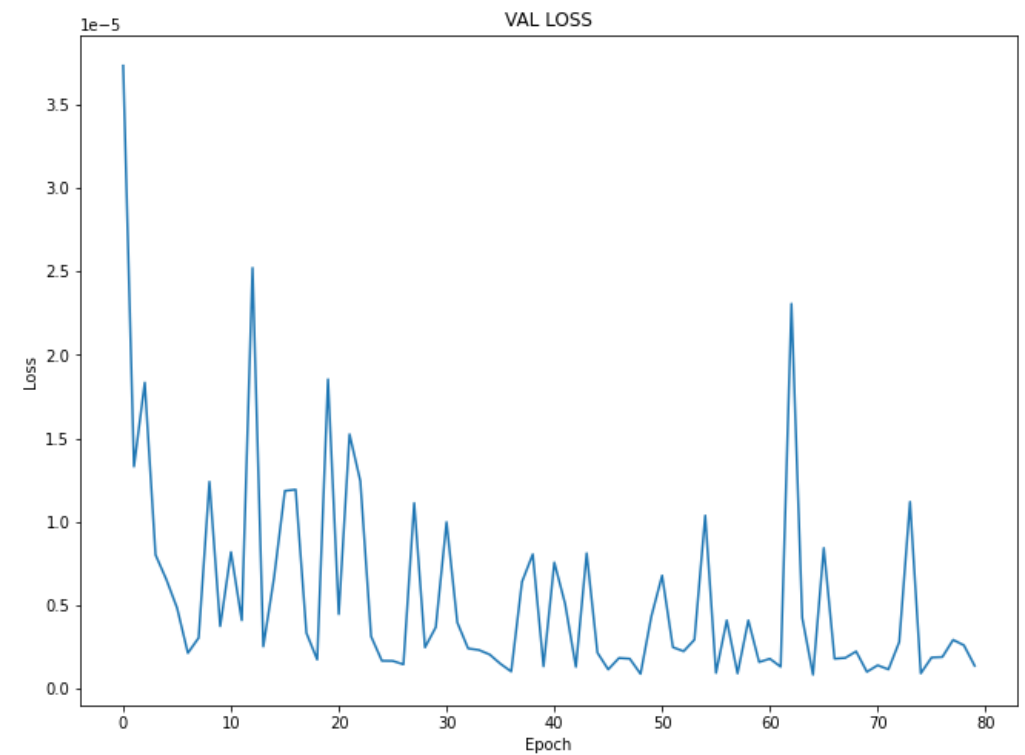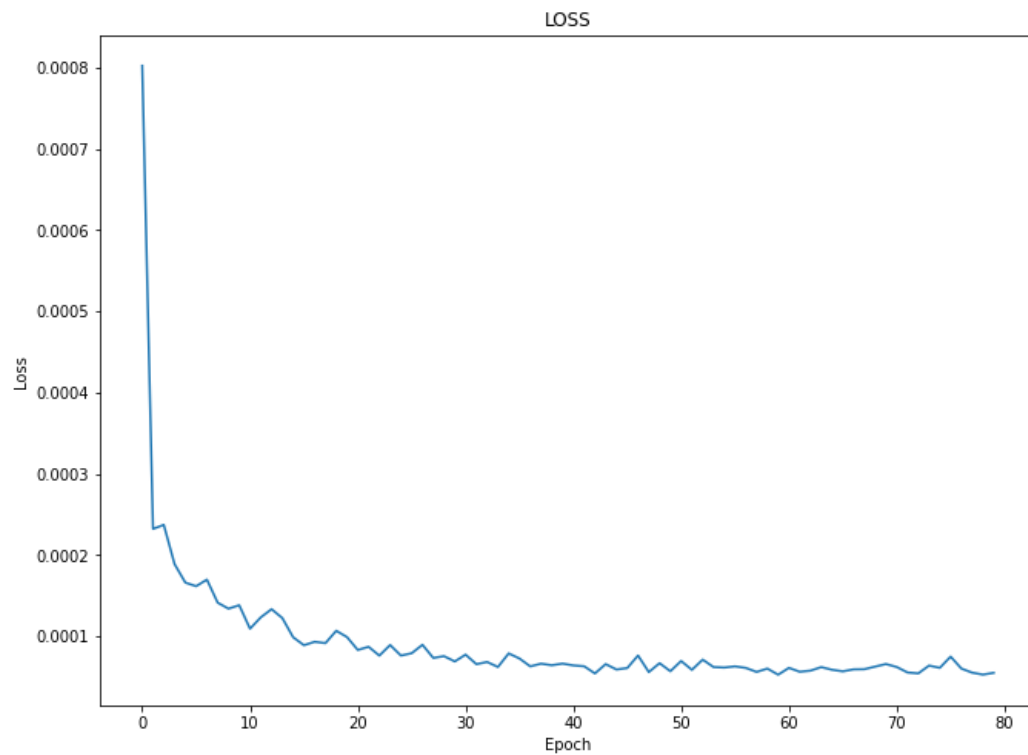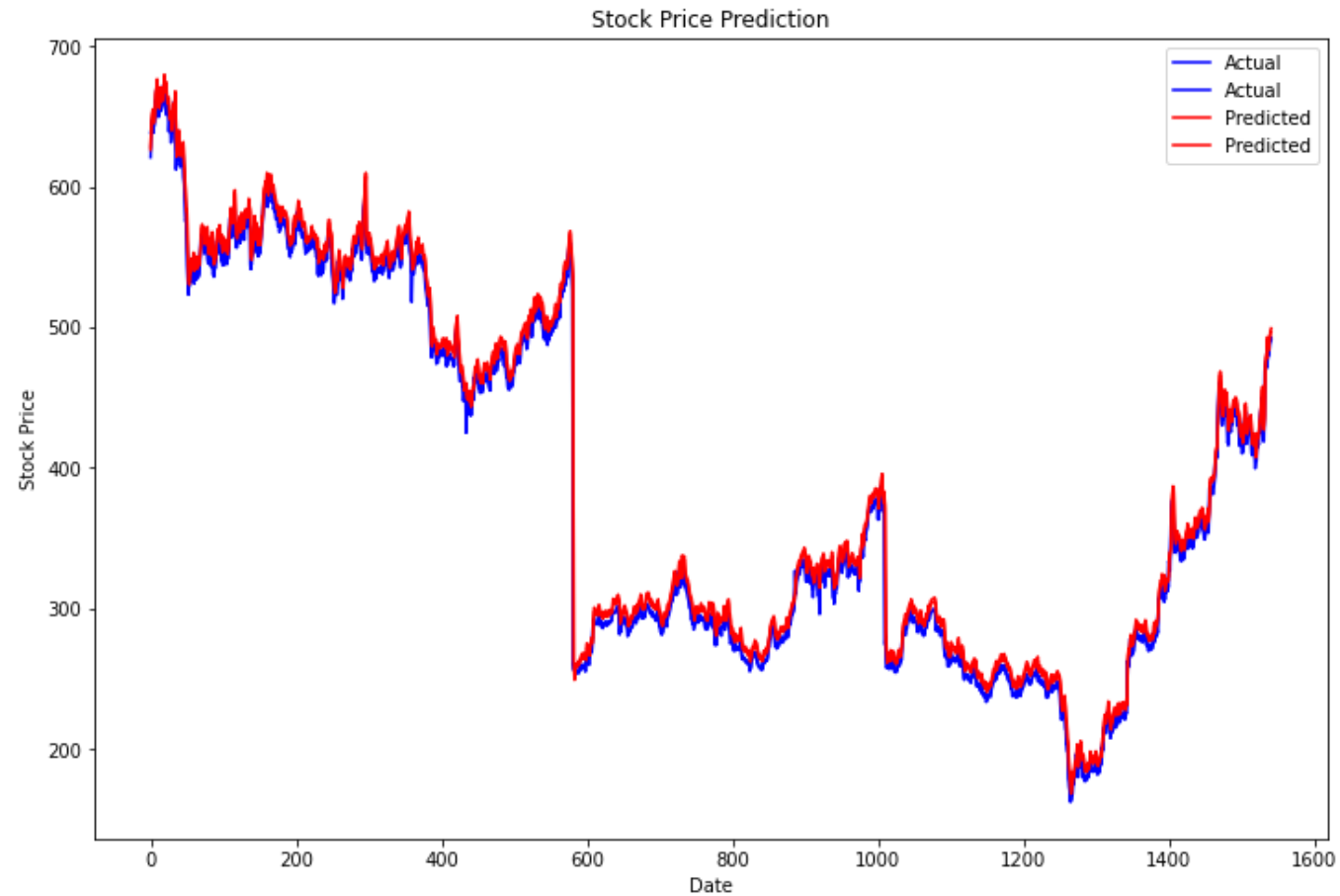# Wipro Stocks – Stacked LSTM Loss

Wipro Stocks – Predictions

RESULTS

Comparison Metrics

Datasets	SARIMA			Hybrid ARIMA + ANN			LSTM		
	MSE	RMSE	MAPE	MSE	RMSE	MAPE	MSE	RMSE	MAPE
Airline	913.2	30.21	5.07%	2690.79	51.88	17.93%	110.12	10.49	5.07%
Weather History	20.39	4.52	57.20%	69.32	8.33	47.03%	20.88	4.55	40.06%
Wipro Stocks (Open)	125.22	11.2	5.09%	83.04	9.12	2.02%	79.01	8.89	2.06%
Wipro Stocks (Close)	139.25	11.8	8.49%	59.52	7.71	1.79%	75.34	8.67	2.51%

THANK YOU

PRESENTED BY:

ADDAGARLA SAGARIKA

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ADITI KALE