Date	7th November 2024
Team ID	SWTID1727321147
Project Name	Time Series Analysis For Bitcoin Price Prediction using Prophet
Minimum Marks	3 Marks

Model Selection Report

In the model selection report for future time series forecasting projects, various models, such as ARIMA, SARIMA, and Prophet, will be evaluated. Factors such as performance, forecasting accuracy, and computational efficiency will be considered to determine the most suitable model for Bitcoin price prediction.

Model Selection Report:

Model	Description	Hyperparameters	Performance Metric (e.g., MAPE, MAE, RMSE)
Prophet	Time series forecasting model; handles seasonality, holidays, and trends well.	changepoint_prior_scale, seasonality_mode, yearly_seasonality	0.75% (MAPE)
ARIMA	Statistical model; captures linear trends and seasonality in time series data.	p, d, q (ARIMA order)	0.82% (MAPE)
SARIMA	Extension of ARIMA; accounts for seasonal components in the time series data.	p, d, q, P, D, Q, S (SARIMA order)	0.80% (MAPE)
LSTM	Recurrent neural network (RNN); captures temporal dependencies and patterns in data.	hidden_units, learning_rate, epochs	0.68% (MAPE)