# Step 1: Load & Preprocess Dataset

Load dataset from files
Preprocess by cleaning newlines, punctuation, and extra spaces
natural log transformation to the `thumbsUpCount` column
Convert dataset into tensors

# Step 2:`Sentiment Classification`

```
Sentiment Classification using DISTIL Bert
Sentiment Classification using Bert
Sentiment Classification using RoBERTa
```
Comparing the three models

# Step 3: Aspect Extraction

Aspect Extraction using LDA model
Aspect wise sentiment distribution
Topic proportion over aspects
Wordcloud visualization

# Step 4: Aspect-wise sentiment analysis

Mean sentiment distribution graph over time for each aspect
Statistical tools used like ACF ,PACF for each aspect

# Step 5: Aspect-wise sentiment forecasting

VAR, ARIMAX model fit to predict target variable using `rating`, `thumbsUpCount_log`
evaluates it with RMSE, MAE, R², and visualizes actual vs. predicted values over time.
RNN, LSTM, GRU Deep learning models defined .
Hypertuned the models and print the best model.