**Season of AI Week 4**

The code builds a sentiment analysis system using an LSTM neural network to classify IMDB movie reviews as positive or negative.

**Steps**

1. **Data Collection:** Uses the Kaggle API to download the IMDB dataset.
2. **Data Preprocessing:**
   * Cleans and prepares the text data.
   * Tokenizes the text using Tokenizer.
   * Pads sequences using pad\_sequences to ensure uniform length.
3. **Model Building:** Creates an LSTM model using tensorflow.keras.
   * Embedding layer: Converts words into numerical vectors.
   * LSTM layer: Captures long-term dependencies in the text.
   * Dense layer: Output layer with a sigmoid activation for binary classification.
4. **Model Training:** Trains the model using model.fit with the training data.
5. **Model Evaluation:** Evaluates the model's performance on the test data using model.evaluate.
6. **Predictive System:** Creates a function predict\_sentiment to predict the sentiment of new reviews.

**Source Code along with documentation / comments**

