Assignment 6, CS2672 - AIML-Lab, Spring 2025

Implement a Bayesian classifier for predicting landslide occurrences using the Global Landslide Dataset. You are expected to preprocess the dataset, train a Naïve Bayes classifier, evaluate its performance, and use it to predict landslide probabilities for new data points.

Prediction on New Data:

- o Use the trained model to predict landslide probability for a **new location** with given environmental conditions:

    - **Rainfall = 250mm**, **Soil Moisture = 40%**, **Slope Angle = 50°**, **Soil Type = Clay**, **Elevation = 1200m**

- o Print the probabilities for **landslide vs. no landslide** and classify the site as **safe or at risk**.

Expected Outputs:

- Python code with proper documentation and comments.

- Confusion matrix and classification report.

- Analysis of prediction results and discussion on accuracy.

Additional:

Modify the model to include additional environmental parameters (e.g., **NDVI for vegetation cover**, **soil moisture index**) and compare the performance with the original model.