Low-Level Design (LLD)
Cryptocurrency Volatility Prediction System

1. Data Ingestion
Historical cryptocurrency data is loaded from CSV files using the Pandas library.

2. Data Preprocessing
Data preprocessing includes date formatting, sorting, handling missing values, and scaling numerical features using StandardScaler.

3. Feature Engineering
Features such as daily returns, rolling volatility, moving averages, and liquidity indicators are generated.

4. Exploratory Data Analysis
EDA includes visual analysis of volatility distribution, trends, and correlations using Matplotlib and Seaborn.

5. Model Training
A Random Forest Regressor is trained on the processed dataset after train-test splitting.

6. Model Evaluation
Model performance is evaluated using MAE, RMSE, and R^2 metrics.