Final Project Summary

Project Title: Cryptocurrency Liquidity Prediction for Market Stability

In this machine learning project, we built a predictive model to estimate cryptocurrency liquidity levels
based on key market indicators such as price, 24-hour change, and market capitalization. The goal was to
forecast potential liquidity crises and enhance market stability insights.

Dataset Upload (Step 1):
In the Colab notebook, the dataset was uploaded using files.upload() from local files. The files
coin_gecko_2022-03-16.csv and coin_gecko_2022-03-17.csv were used as the base data for cryptocurrency
price and volume analysis.

The following steps were successfully completed:
- Data was cleaned and normalized using StandardScaler
- Exploratory Data Analysis (EDA) was performed using histograms
- Multiple models were tested including Linear Regression and Random Forest
- A log transformation was applied to handle the skewed volume data
- The final Random Forest model, trained on log-transformed targets, achieved the following metrics:
- RMSE: ~4.55 billion
- MAE: ~676 million
- R^2 Score: ~0.12

Although the R^2 score indicates that more features or data sources may be required for stronger

predictions,

the project successfully demonstrates the end-to-end pipeline of data preprocessing, model training, evaluation, and saving for deployment.

This document serves as a functional and complete summary for the project on Cryptocurrency Liquidity Prediction.