# Objective

Design a Python-based mini algo-trading prototype that:

* Connects to a stock data API (e.g., Alpha Vantage),
* Implements a sample trading strategy (RSI + Moving Average crossover),
* Stores & analyzes trades automatically in Google Sheets,
* Generates portfolio analytics and buy/sell signals using ML or rule-based logic.

# Deliverables

1. Data Ingestion:
   * Fetch intraday or daily stock data for at least 3 NIFTY 50 stocks using Alpha Vantage API.
2. Trading Strategy Logic:
   * Implement RSI < 30 as a buy signal
   * Confirm with 20-DMA crossing above 50-DMA
   * Backtest for 6 months.
3. ML Automation (Bonus):
   * Basic model (Decision Tree or Logistic Regression) to predict next-day movement using RSI, MACD, Volume, etc.
   * Output prediction accuracy.
4. Google Sheets Automation:
   * Log trade signals and P&L to Google Sheets
   * Include trade log, summary P&L, and win ratio in separate tabs.
5. Algo Component:
   * Auto-triggered function to scan data, run strategy, and log output.
6. Code Quality:
   * Modular code with logging and documentation.

# Evaluation Criteria

API/Data Handling - 20% Trading Strategy Logic - 20%

Automation & Google Sheets - 20% ML/Analytics - 20%

Code Quality & Documentation - 20%

# Bonus Task

* + Add Telegram alert integration for signal alerts or error notifications.