Question 1: "You are given a raw, messy dataset (provide a sample CSV). Using Aide Agent, load this data, handles missing values and performs feature engineering steps. Demonstrate how AiDE's iterative refinement process helps you achieve a clean and ready-to-use dataset."

Question 2: "Given a prepared dataset from the previous step, instruct AiDE to develop a script that builds and trains a machine learning model. After the initial model training, ask AiDE to evaluate its performance using relevant metrics (e.g., F1-score, RMSE, AUC).Use AiDE to suggest and implement a basic hyperparameter tuning approach to improve the model, explaining the rationale behind the chosen parameters. Show how AiDE explains its reasoning and approach throughout this process

Pre req -  Data from below link

[https://www.kaggle.com/datasets/takusingh/powerco-a-major-gas-and-electricity-utility](https://ind01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.kaggle.com%2Fdatasets%2Ftakusingh%2Fpowerco-a-major-gas-and-electricity-utility&data=05%7C02%7Cpamula.rohit%40valuelabs.com%7C8f9950f29d3c48c2da4308ddb47ba349%7C2424c2cd1b32413e9d9d16174a103432%7C0%7C0%7C638865165281853506%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXaW4zMiIsIkFOIjoiTWFpbCIsIldUIjoyfQ%3D%3D%7C0%7C%7C%7C&sdata=40OmFYHlEAKYchHKjTUrae3u%2Fh4DZyBhNBDQ2yd9LP8%3D&reserved=0)

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Question 2: Inventory Management and Supply Chain Optimization

Scenario: You have access to a simulated SQL database (e.g., SQLite, PostgreSQL via MCP Server) containing three tables: demand, inventory and pricing

Build a model for demanad forecastion,pricing optimization or reduce stock outs, minimize holding costs, and improve supply chain efficiency.

Pre req -  SQL DB with data from below url

[https://www.kaggle.com/datasets/suvroo/inventory-optimization-for-retail](https://ind01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.kaggle.com%2Fdatasets%2Fsuvroo%2Finventory-optimization-for-retail&data=05%7C02%7Cpamula.rohit%40valuelabs.com%7C8f9950f29d3c48c2da4308ddb47ba349%7C2424c2cd1b32413e9d9d16174a103432%7C0%7C0%7C638865165281873790%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXaW4zMiIsIkFOIjoiTWFpbCIsIldUIjoyfQ%3D%3D%7C0%7C%7C%7C&sdata=rEs1mEio%2FKGIwdAGhEuVf2%2FzwBmJRBua22xNZmCA%2FtE%3D&reserved=0)

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Question 3: Automated Data Cleaning and Feature Engineering for a Machine Learning Task

Scenario: You are given a raw dataset for a churn prediction model.

Data :

[https://www.kaggle.com/competitions/bank-customer-churn-prediction-challenge/data?select=train.csv](https://ind01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.kaggle.com%2Fcompetitions%2Fbank-customer-churn-prediction-challenge%2Fdata%3Fselect%3Dtrain.csv&data=05%7C02%7Cpamula.rohit%40valuelabs.com%7C8f9950f29d3c48c2da4308ddb47ba349%7C2424c2cd1b32413e9d9d16174a103432%7C0%7C0%7C638865165281886600%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXaW4zMiIsIkFOIjoiTWFpbCIsIldUIjoyfQ%3D%3D%7C0%7C%7C%7C&sdata=IhRwkpuWbbwegAjUuNn%2F%2FXeOoNK6tKFCDD8o%2FIdHWgU%3D&reserved=0)

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Question 4: Implement Data Drift Monitoring:  given a social media posts data  , calculates relevant statistical metrics and performs a simple statistical comparison to flag potential drift in posts. compare the year or year drift

Pre - req :

[https://www.kaggle.com/datasets/mdismielhossenabir/sentiment-analysis](https://ind01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.kaggle.com%2Fdatasets%2Fmdismielhossenabir%2Fsentiment-analysis&data=05%7C02%7Cpamula.rohit%40valuelabs.com%7C8f9950f29d3c48c2da4308ddb47ba349%7C2424c2cd1b32413e9d9d16174a103432%7C0%7C0%7C638865165281899646%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXaW4zMiIsIkFOIjoiTWFpbCIsIldUIjoyfQ%3D%3D%7C0%7C%7C%7C&sdata=4TxdvLZ9enhv03tVBfPbMcOQjSBie8%2FgAtf5OhKWTcE%3D&reserved=0)

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Question 5: Implement a document classification model along with Streamlit or Gradio based UI, based on the image uploaded on the UI, detect if the document contains handwritten text of not.Host the application locally.