AI Agent with SQL

Project Overview

This project demonstrates an intelligent agent that can interpret natural language questions and generate corresponding SQL queries to retrieve data from a MySQL database. It leverages the power of LangChain, Perplexity AI, and OpenAI's ecosystem to create a seamless interface between human language and structured database queries.

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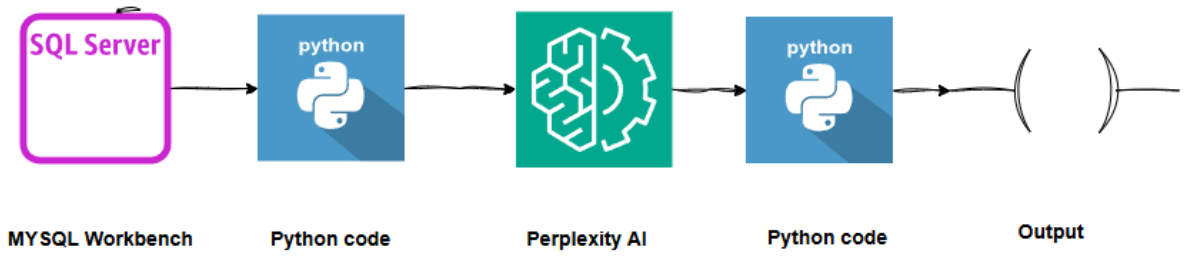

Technologies Used

- Python
- LangChain (Classic & Community)
- ChatPerplexity (Sonar Model)
- OpenAI SDK
- MySQL
- dotenv (for environment variable management)
- PyMySQL (for MySQL connection

Workflow Steps

1. Connect to MySQL using credentials from `.env`.
2. Extract schema with `db.get_table_info()`.
3. Prompt model with schema + user question.
4. Generate SQL query using Perplexity AI.
5. Execute query and return results.

Security Notes

- Credentials are stored securely using `.env` files.
- SQL queries are generated dynamically but executed safely using LangChain's built-in protections.

Screenshots from the output :