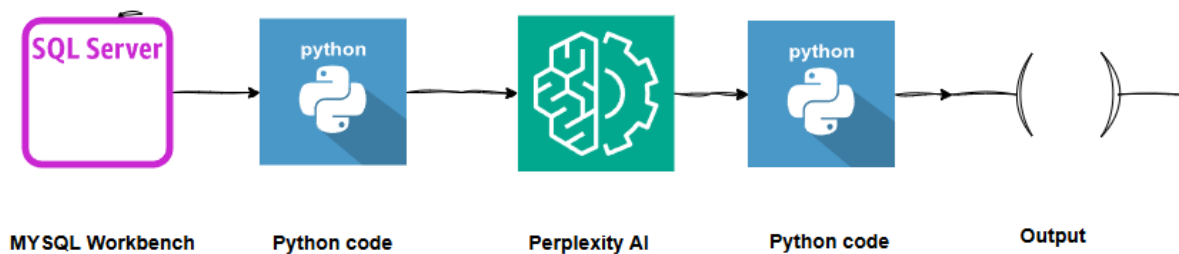


# AI Agent with SQL

## 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.

## Project Overview :



## 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 :

```
(agent) C:\Users\anbu0\Desktop\AI Agent -3>main.py

Ask your question : What is the netpay of Meena devi ?

-----
The query which we used to get the below output :  SELECT s1.`Net Pay` FROM sheet1 s1 WHERE s1.`Name` = 'Meena devi';
-----
The obtained output is :  [(32200,)]
-----

Ask your question : What the training program of Rakesh Patel ?

-----
The query which we used to get the below output :  SELECT `Training Program` FROM sheet2 WHERE `Name` = 'Rakesh Patel';
-----
The obtained output is :  [('Welding Advanced',)]
-----

Ask your question : What is the suresh balan job title ?

-----
The query which we used to get the below output :  SELECT `Job Title` FROM sheet3 WHERE `Name` = 'suresh balan';
-----
The obtained output is :  [('Electrician',)]
-----
```