**SQLAlchemy Library and Tutorial**

Welcome to the SQLAlchemy Library and Tutorial project! This repository contains a comprehensive guide and examples for using SQLAlchemy, a powerful SQL toolkit and Object-Relational Mapper (ORM) for Python.

**About SQLAlchemy**

SQLAlchemy provides a full suite of well-known enterprise-level persistence patterns, designed for efficient and high-performing database access, adapted into a simple and Pythonic domain language. It offers both Core and ORM components:

* **Core**: A low-level interface for interacting with databases using SQL expressions. It allows developers to construct and execute SQL queries directly, providing fine-grained control over database interactions.
* **ORM**: An abstraction layer built on top of Core that allows developers to work with domain objects mapped to a database schema. It automates common database operations and provides a more object-oriented approach to database programming.

**Tutorial Project**

This repository includes a tutorial project that demonstrates various aspects of SQLAlchemy, including:

* Setting up a database connection and defining models using ORM.
* Performing CRUD (Create, Read, Update, Delete) operations on database records using ORM methods.
* Executing advanced SQL queries and visualizations

**Getting Started**

To get started with the tutorial project, follow these steps:

1. Clone this repository to your local machine:

clone https://github.com/yourusername/sqlalchemy-tutorial.git

1. Install the required dependencies:

pip install sqlalchemy

1. Run the tutorial scripts:

python Midterm\_SQLAlchemy.ipynb

1. Explore the provided examples and experiment with SQLAlchemy to learn more about its features and capabilities.

**Contributing**

Contributions to this tutorial project are welcome! If you have suggestions for improvements or new features, feel free to open an issue or submit a pull request.

**Resources**

* SQLAlchemy Documentation: Official documentation for SQLAlchemy, including tutorials, guides, and reference documentation.
* Geeks for Geeks Tutorials