### **Database Management System with Tkinter GUI**

#### **Project Overview**

Our project is a **database management system (DBMS) with a Tkinter-based GUI** that allows different user roles to interact with a MySQL database named **"corporate"**. The database contains six tables: **clients, deliveries, drivers, job\_cards, maintenance, and trucks**. The application provides an interface where **admin users** can **modify** the database, while **local users** have **read-only access** to view records.

#### **Key Features**

1. **Login System with User Roles**
   1. Users must log in before accessing the system.
   2. **Admin users** have full CRUD (Create, Read, Update, Delete) permissions.
   3. **Local users** can only view records but cannot modify them.
2. **Database Integration**
   1. The application connects to a MySQL database.
   2. It fetches real-time data from tables for display.
3. **User-Friendly Interface with Tkinter**
   1. Provides an easy-to-use graphical user interface (GUI) using **Tkinter**.
   2. Separate sections for different tables allow structured navigation.
4. **Table Management**
   1. Admin users can add, update, and delete records from tables.
   2. Local users can search and filter records efficiently.

#### **Technical Stack**

* **Frontend:** Tkinter (Python GUI library)
* **Backend:** Python
* **Database:** MySQL
* **Security:** User authentication and role-based access control

#### **Applicability**

The project is **highly applicable**, particularly for **transport companies** and logistics firms that require digital solutions to **track vehicles, manage maintenance records, monitor job statuses, and organize deliveries efficiently**. By digitizing these processes, businesses can reduce paperwork, minimize errors, and improve operational efficiency.

#### **Complexity Analysis**

The project has a **moderate level of complexity**. It involves handling database interactions, updating the GUI dynamically based on user actions, and implementing role-based access control. While it requires a **structured approach** to ensure smooth functionality and maintainability, the use of **Tkinter and MySQL** makes it a manageable and practical project.

#### **Project Goals**

* Provide an intuitive way to manage corporate data.
* Implement role-based security to ensure data integrity.
* Develop a robust and scalable solution using Python and MySQL.

This project showcases practical implementation of **database management, GUI design, and user authentication**, making it an excellent learning experience for our class group.