Role-Based Login System

# Overview

This Role-Based Quiz Management System is a GUI-based Python application using Tkinter and SQLite. It supports three user roles: Admin, Teacher, and Student. Each role has access to specific features, ensuring efficient user, quiz, and student record management.

# Admin Dashboard

Admins can manage user accounts:  
- View all users  
- Add new users with roles  
- Update user roles and passwords (except Admins)  
- Delete users (except Admins)

# Teacher Dashboard

Teachers can manage quiz content and student records:  
- Add/Edit/Delete quiz questions  
- View/Edit/Delete student marks  
- Auto-add 'marks' column if missing  
- Set default password 'default123' for new students

# Student Dashboard

Students can:  
- Take quizzes stored in quiz.db  
- View one question at a time with options A-D  
- Have their scores automatically saved to user.db

# Registration & Login

Users can register via the registration interface. Passwords are securely stored using SHA-256 hashing.  
Login redirects users to respective dashboards based on their role.

# Database Structure

1. user.db - Stores user credentials and student marks

- username (TEXT, PRIMARY KEY)

- password (TEXT, hashed)

- role (TEXT: Admin, Teacher, Student)

- marks (INTEGER, optional for Students)

2. quiz.db - Stores quiz questions

- id (INTEGER PRIMARY KEY AUTOINCREMENT)

- question (TEXT)

- option\_a to option\_d (TEXT)

- correct\_option (TEXT: A/B/C/D)

# Summary

This modular and secure system ensures role-based access control with clean UI, persistent data handling, and extensibility for future upgrades like analytics or report generation.