Project Report: Online Quiz System

1. Objective

The objective of this project is to build a timed quiz application with score tracking. It allows users to register, log in, take quizzes, and view their results. The system ensures secure storage of user data and quiz results in a database.

2. Tools & Technologies

The project is implemented using the following tools and technologies:

Programming Language	Java
GUI Framework	Java Swing
Database	MySQL
Database Connectivity	JDBC (MySQL Connector/J)

3. System Features

• User registration and login system.
• Quiz selection from available quizzes.
• Randomized questions for each user.
• Timer-based quiz execution.
• Score calculation and result storage in the database.
• Result display with correct answers after quiz completion.

4. System Design

The system is divided into the following modules:
• Database Module: Defines schema for users, quizzes, questions, and results.
• Authentication Module: Handles user login and registration.
• Quiz Module: Loads and presents questions, tracks answers, and applies timer.
• Result Module: Stores quiz results and displays detailed feedback.

5. Database Design

The database schema includes the following tables:

Table	Description
users	Stores user credentials and profile information.
quizzes	Stores quiz metadata such as title and time limit.
questions	Stores quiz questions and options with correct answers.
results	Stores user scores for each quiz attempt.

6. Deliverables

• Database schema script (SQL file).
• Java source code for the entire application.
• Screenshots of application execution.
• Final project report (this document).

7. Conclusion

The Online Quiz System successfully demonstrates the integration of Java Swing with a MySQL database to create a functional application. It provides essential features such as user authentication, quiz execution, timer management, and result tracking. The project can be further extended by adding an admin panel for quiz management, enhanced security measures, and a more modern UI using JavaFX.