**Project Report: Online Quiz Application**

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**1. Introduction**

This project is a desktop-based **Online Quiz Application** developed using **JavaFX** and **MySQL**. It allows users to log in with **“admin123 and 123456”**, take multiple-choice quizzes, and view their scores. The application emphasizes simplicity, usability, and real-time quiz evaluation, making it suitable for educational or skill-testing environments.

**2. Abstract**

The main objective of this project is to design an interactive and user-friendly quiz platform where users can attempt categorized quizzes and receive immediate feedback. The system maintains user interaction via JavaFX GUI and connects to a backend database using JDBC. The quiz logic includes question retrieval, option handling, score calculation, and result display.

**3. Tools Used**

* **Programming Language**: Java
* **Framework**: JavaFX
* **Database**: MySQL
* **Connector**: JDBC
* **IDE**: VS Code

**4. Steps Involved in Building the Project**

1. **Setting Up Database**: A MySQL database was created to store quiz questions
2. **Database Connection**: The DBConnection.java class establishes the connection between Java and MySQL using JDBC.
3. **Creating Models**: The Question.java class defines the question object with properties like questionText, options, and correctAnswer.
4. **Data Access Layer**: The QuizDAO.java class handles fetching quiz data from the database.
5. **User Interface**: App.java implements the UI using JavaFX. It displays login, quiz screen, and result screen dynamically based on user interaction.
6. **Quiz Logic**: It includes displaying questions, accepting responses, storing answers, and calculating scores.
7. **Testing**: The application was tested for multiple question sets and user scenarios to ensure robustness.

**5. Conclusion**

The Online Quiz Application is a functional and interactive tool that demonstrates the integration of frontend (JavaFX) and backend (MySQL). It enhances programming and database management skills and can be extended to support features like admin panels, timer-based quizzes, and question randomization. The project lays a strong foundation for more complex educational platforms.