Quiz Application - Java Project Documentation

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# 3. Introduction

The Quiz Application is a desktop-based application developed using Java Swing and AWT. It allows users to answer multiple-choice questions and receive a score at the end of the quiz.

# 4. Objective

To develop a simple and interactive Java-based quiz system that presents questions, takes user input, and displays results efficiently.

# 5. Technologies Used

|  |  |
| --- | --- |
| Component | Technology |
| Programming Lang | Java (JDK 8+) |
| UI Framework | Swing, AWT |
| IDE | NetBeans |

# 6. Features

* Multiple-choice questions
* 15 seconds timer for each question
* 50-50 Lifeline option
* Next and Submit buttons
* Score display
* Modular code using OOP

# 7. System Requirements

* OS: Windows
* RAM: Minimum 2 GB
* JDK: Java 8 or above
* IDE: NetBeans

# 8. System Design

A. Class Diagram (Description)  
- `Quiz` class: Main JFrame, handles GUI and user interactions.  
- `Login` class: Holds login data.  
- `Rules` class: Displays rules of the quiz - `Score` class: Displays final score.

B. Application Flow:

1. Start Quiz
2. Display Rules
3. Display Question
4. If required use Lifeline
5. Take Input
6. Save Answer
7. Go to Next Question
8. Submit and Show Score

# 9. Screenshots

(Add screenshots of the GUI here: Welcome screen, Question screen, Score screen)

# 10. Code Explanation

```java  
// Submit button implementation  
submit = new JButton("Submit");  
submit.addActionListener(this);  
```

Main Classes:  
- `Quiz.java` - Controls application logic and GUI  
- `Score.java` - Displays user score  
- `Rules.java` - Display rules of the quiz - `Login.java` - Take the login details from user

Project Structure:  
/quiz-application  
|-- Login.java  
|-- Rules.java |-- Quiz.java  
|-- Score.java

# 11. Testing

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case | Input | Expected Output | Status |
| TC1 | All correct | 10/10 | Pass |
| TC2 | No answers | 0/10 | Pass |
| TC3 | Mixed answers | Partial Score | Pass |

# 12. Conclusion

The project successfully demonstrates a basic Java quiz system with GUI using Swing. It helped understand Java OOP, event handling, and UI development.

# 13. Future Enhancements

* Store questions in a database
* Add user authentication
* Randomize questions
* Add category selection