**Title**: Quiz Application

1. **Introduction**

This project is a web-based quiz application that allows users to answer questions, calculate their scores, and track their progress over time. It includes a leaderboard feature that ranks users based on their scores, promoting a sense of friendly competition. The application is designed to be simple, interactive, and accessible on all devices, providing a fun way to learn and test knowledge.

1. **Objective**

The main objective of this project is to create a user-friendly quiz system where users can answer questions, view their results, and compare their performance with others. It aims to motivate users to improve their knowledge through competitive scoring and provide an engaging platform for learning and self-assessment.

1. **Scope of Work**

The scope of this project includes developing a quiz page where users can answer multiple-choice questions and submit their responses. Once submitted, the system calculates their score and stores it with their name. The scores are saved in the browser's local storage, ensuring they remain accessible even after the page is closed. Additionally, the project includes creating a leaderboard page that displays all users' scores in descending order, showing their rank based on performance. The design is responsive, meaning it works seamlessly on desktops, tablets, and mobile devices.

1. **Methodology**

This project starts with planning, where we define the features needed, such as the quiz functionality, score calculation, and leaderboard display. Next, we design the layout of the application, ensuring that it is simple and easy to navigate. The development phase involves writing code to handle the quiz logic, store scores, and display the leaderboard. We use JavaScript to manage user interactions and store data, while HTML and CSS handle the visual layout. Testing is done to ensure the application calculates scores correctly, stores data reliably, and displays the leaderboard accurately. Finally, the application is prepared for deployment, either on a local server or an online hosting platform, so users can access it.

1. **Technologies Used**

HTML5: For structuring the web pages.

CSS3: For basic styling and design.

Bootstrap 5: For responsive design and UI components.

JavaScript: For dynamic functionality, including score calculation, local storage manipulation, and leaderboard population.

LocalStorage: For persisting user scores across sessions.

1. **Project Structure**
2. index.html - Home page
3. quiz.html - Quiz page where users take the quiz
4. result.html - Result page to display individual scores
5. leaderboard.html - Leaderboard page to display rankings
6. script.js - JavaScript logic for quiz functionality
7. styles.css - Custom styles (if applicable)
8. bootstrap.min.css - Bootstrap framework
9. **Future scope**
10. Question Randomization: Add logic to shuffle questions for a unique experience every time.
11. Database Integration: Replace localStorage with a backend database for centralized data storage.
12. Authentication: Add user accounts to allow persistent tracking across devices.
13. Styling Enhancements: Use custom styles or animations for a polished look.
14. **Conclusion**

This project is a basic but functional quiz application suitable for learning purposes or small-scale deployment. The modular design allows for easy feature additions and enhancements.