**MCQ Based Online Exam Application Documentation**

**Overview**

The MCQ Based Online Exam Application is an interactive quiz application that allows users to take a multiple-choice exam based on a pool of questions. Users can also view their scores and a leaderboard of top scorers.

**Features**

- Load questions from a CSV file.

- Randomly select 7 questions from a pool of 20.

- Validate user answers and calculate scores.

- Save user scores to a leaderboard CSV file.

- Display the top scores on a leaderboard.

**Components**

1. Files

- exam\_client.py: The main file for running the quiz game.

- question\_master.py: A utility for managing and adding questions.

- app.py: A Flask web application version of the quiz.

- questions.csv: Contains the questions, options, and correct answers.

- leaderboard.csv: Stores the names, universities, and scores of participants.

2. Key Functions

`**load\_questions()`**

- Loads questions from `questions.csv` into a list of dictionaries.

`**save\_score(name, university, score)**`

- Appends the user's score to `leaderboard.csv`.

`**display\_leaderboard()**`

- Reads from `leaderboard.csv` and displays the top 5 scores.

`**start\_exam()**`

- Prompts the user for their name and university.

- Randomly selects 7 questions from the pool.

- Validates user answers and calculates the score.

- Saves the score to the leaderboard.

`**menu()**`

- Displays the main menu for the application, allowing users to start the exam, view the leaderboard, or exit.

3. File Structure

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├── exam\_client.py

├── question\_master.py

├── app.py

├── questions.csv

└── leaderboard.csv

How to Run the project

1. Ensure you have Python installed on your system.

2. Save all the files in the same directory.

3. Open a terminal/command prompt and navigate to the directory.

4. Run the command:

bash

python exam\_client.py

5. Follow the on-screen instructions to take the quiz or view the leaderboard.

Dependencies

- Python 3.x

- Flask (for the web version)