**Project Report: MCQ Python App**

**Team: Bouchouk Fouad**

**Riad Challal**

**Abderrahmani Youcef**

**Introduction**

This project is a quiz app for computer science students. It lets users take multiple-choice tests, tracks their scores, and saves their history. The app runs in the console, making it easy to use without a fancy interface. Admins can add new questions, and users can pick topics like Python

or Cybersecurity.

**features and code structure :-**

 **User Management**: When you start the app, you type a username. If you’re new, it creates a proﬁle. Returning users see their past scores and test dates. All this is saved in a JSON ﬁle.

 **Questions & Answers**: Questions are stored in a JSON ﬁle, split into categories. Each

question has three options, and the app checks if your answer is correct.

**Taking the Quiz**: You pick a category (or choose “All”), answer questions one by one, and get immediate feedback. After ﬁnishing, your score is saved.



 **Admin Features**: Admins (like “riad” or “fouad”) can add new questions to any category.

 **JSON Files**: Used for storing users and questions because it’s simple and works well with Python.

 **Classes & Functions**: The main class MCQApplication handles everything—loading data, running quizzes, saving results. Functions are split into smaller tasks (e.g., loadUsers(), run\_test()) to keep the code clean.

 **Input Validation**: The app forces you to type valid answers (a/b/c) and checks if usernames or categories exist.

**Usage Guide:-**

# Starting Up

* run the main.py script through a terminal window
* the script will ask you for a user name

 If you’ve used it before, it digs up your past scores and test dates from a JSON ﬁle

if not It will create a proﬁle for you .



# Taking the Quiz

Pick a category (like “Python” or “Algorithms”) or go with “All Categories.”



 The app grabs questions from the JSON ﬁle, shuﬄes them and present them for you.

Each question has three options (a, b, c). it won’t accept other choices



# Feedback & Scores

* After each question, it will tell you if your choice is correct or not. If you are wrong, it shows the correct answer.
* At the end, it will show you your final score and update your info in CVS file

1. **Admin**

 Admins (like “riad” or “fouad”) have the possibility to add new questions. They pick a category, type the question + options, and tag the right answer. The app add it into the JSON ﬁle.

# Extras

 **Export Scores**: You can dump your entire quiz history into a CSV ﬁle.

 **History Tracking**: Every test you take gets logged with the date, category, and score.

 **Random Questions**: Uses random function to pick questions without repeats.

**Testing :-**

 **Users**: Made multiple accounts to see if scores saved.

 **Invalid Inputs**: Typed wrong input as an answer. The app replied “wrong answer pick a/b/c!”

**CSV Checks**: Opened exported ﬁles in Excel to make sure dates and scores lined up.



**Conclusion:-**

The MCQ Python App showcases our team's application of advanced programming concepts to create a functional, user-friendly quiz platform. With features like user management, score tracking, admin controls, and question categorization, the app delivers a personalized and engaging experience. Robust testing ensured reliability, and JSON-based data storage ensures simplicity and scalability. This project reflects our dedication to creating practical tools for learning and skill development.