

CSC 104 Final Project

Quiz App

Objective: You are tasked with developing a Quiz Application using Python and Tkinter. The app should read questions from a CSV file and present them in different formats. You are required to include the following types of questions:

- I. Multiple Choice Questions (MCQ)
 - a. The user should be able to choose from multiple answer options.
 - b. The application will check if the answer is correct and give feedback.
- II. Fill-in-the-Blanks Questions
 - a. The user should input their answer into a text box.
 - b. The application will compare the user's input with the correct answer and provide feedback.
- III. True or False Questions
 - a. The user should select either True or False as their answer.
 - b. The application will verify the answer and give feedback.

Requirements:

- I. Interface:
 - a. The user interface should be simple and easy to use with clear labels for each question.
 - b. Use Tkinter for the GUI and make sure the app is visually appealing.
- II. CSV File:
 - a. All questions should be stored in a CSV file.
 - b. The CSV file format should be:
 - i. For MCQs: Question, Option1, Option2, Option3, Option4, CorrectAnswer
 - ii. For Fill-in-the-Blanks: Question, CorrectAnswer
 - iii. For True/False: Question, True/False, CorrectAnswer
- III. Functionality:
 - a. The app should display one question at a time.
 - b. After submitting the answer, show whether it's correct or incorrect and move to the next question.
 - c. Display the final score at the end of the quiz.
- IV. Bonus Features (Optional):

- a. Timer for each question.
- b. The ability to save and load previous scores.
- c. A graphical progress bar showing how much of the quiz has been completed.

Grading Criteria: Quiz App Final Project

1. Functionality (40 points)

- I. **Multiple Choice Questions (MCQ) – 10 points**
 - a. Correctly displays MCQs with multiple answer options.
 - b. Correct answer verification is implemented and feedback is provided.
- II. **Fill-in-the-Blanks Questions – 10 points**
 - a. Correctly accepts user input for fill-in-the-blank questions.
 - b. Proper answer validation and feedback provided.
- III. **True or False Questions – 10 points**
 - a. Correctly displays True/False questions and handles selection.
 - b. Proper answer validation and feedback provided.
- IV. **Navigation – 10 points**
 - a. The app displays one question at a time, moves through questions correctly, and displays the final score.
 - b. Next question appears after submission with appropriate feedback (correct/incorrect).

2. User Interface & Experience (30 points)

- I. **Usability – 15 points**
 - a. The interface is clear and intuitive for users to interact with.
 - b. Text, buttons, and other elements are easy to read and use.
 - c. Proper instructions or labels for each question type (MCQ, Fill-in-the-Blank, True/False).
- II. **Aesthetic & Design – 10 points**
 - a. The app has a simple and appealing design, with appropriate spacing, font sizes, and color schemes.
- III. **Responsive Layout – 5 points**
 - a. The interface adjusts well to different window sizes and is user-friendly.

3. Code Quality (20 points)

- I. **Code Organization & Structure** – 10 points
 - a. Code is well-organized into functions or classes.
 - b. Logical separation of concerns (e.g., GUI components, logic for validation, etc.).
- II. **Comments & Documentation** – 5 points
 - a. Code is well-commented, explaining the purpose of functions and key lines of code.
 - b. Clear explanations of the approach are provided in a README or docstrings.
- III. **Error Handling** – 5 points
 - a. Handles potential errors, such as missing CSV files, invalid answers, or user input errors, gracefully.

4. CSV File Structure (10 points)

- I. **Correct Format** – 5 points
 - a. The CSV file follows the required format for multiple choice, fill-in-the-blanks, and true/false questions.
- II. **Content & Variety** – 5 points
 - a. The CSV file contains a reasonable number of questions (at least 5 of each type) with varied difficulty.

5. Bonus Features (Optional, 10 points)

- I. **Timer** – 5 points
 - a. A timer is implemented to limit the time for answering each question.
- II. **Progress Bar** – 3 points
 - a. A graphical progress bar is implemented to show quiz completion.
- III. **Score Saving & Loading** – 2 points
 - a. The ability to save and load previous quiz scores.

Total: 100 Points

Grading Scale:

- **90-100 points:** Excellent (A)
- **80-89 points:** Good (B)
- **70-79 points:** Satisfactory (C)
- **60-69 points:** Needs Improvement (D)
- **Below 60 points:** Failing (F)

