SDLC FRAMEWORK

(7 Phases of Software Development Life Cycle)

Phase 1: Planning

Objective: I will create an interactive quiz game program in Python that reads quiz questions from a `quiz_output.txt` file, randomly presents one at a time without repetition, and evaluates the user's responses.
Scope: This covers the creation of a user-interactive quiz game system that:

- Reads pre-formatted quiz questions from `quiz_output.txt`.
- Presents each question randomly.
- Prevents question repetition.
- Checks and displays whether the user's answer is correct or not.

Resources: Python and file handling

Phase 2: Requirements Gathering/Analysis

Requirements:

- Read from a structured text file (`quiz_output.txt`).
- Parse questions, choices (a–d), and the correct answer.
- Randomize question order and ensure no repeats.
- Prompt the user for answers, validate, and give feedback.
- End the quiz when all questions are answered.

Phase 3: Design

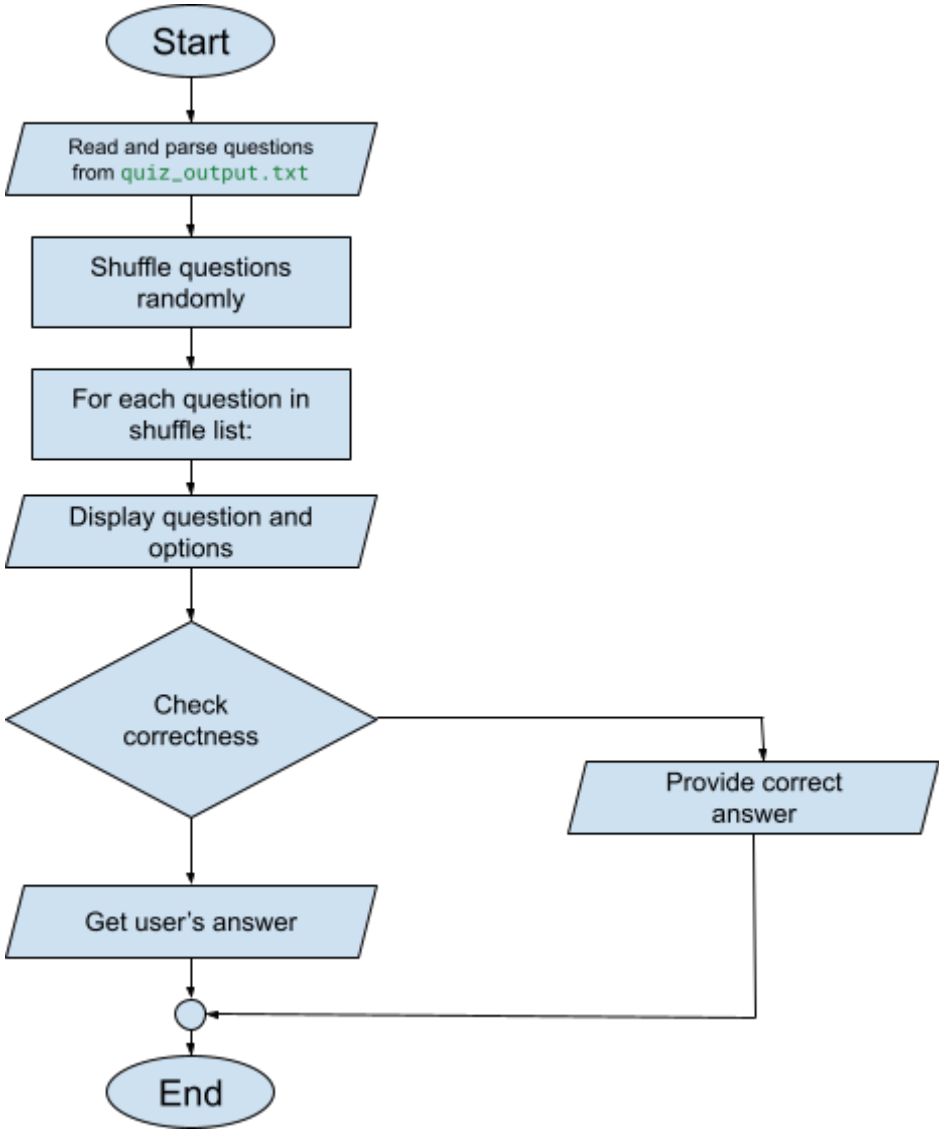
Algorithm (input, process, output):

1. **Input:**
    - Open and read `quiz_output.txt`.
    - Extract the questions, choices, and correct answers using a parsing method.
2. **Process:**

- Shuffle the list of parsed questions.
- For each question:
    - Display the question and choices
    - Get the user's answer
    - Compare it to the correct answer
    - Provide feedback.
- Continue until all questions are answered.

3. **Output:**
    - Display if the user's answer is correct or incorrect after each question.

Flowchart:



Phase 4: Implementation/Development

Program: quiz_game.py

Phase 5: Testing

Test Case 1:
File: `quiz_output.txt` contains 5 valid questions.
Input: Correct answer for each question.
Expected Output: Displays "✅ Correct!" for each and completes quiz.

Test Case 2:
Input: Mix of correct and incorrect answers.
Expected Output: Feedback of each, showing the correct answer if wrong.

Test Case 3: *Invalid Input Handling*
Input: "e" or blank as user input
Expected Output: Displays "Invalid. Please enter a, b, c, or d: "

Phase 6: Deployment

GitHub Repository: python_quiz_game_system/
Demonstration Video: Quiz Game Demonstration by John Mike Asuncion

Program is ready for use and can be executed.

Phase 7: Maintenance & Support

I'd be grateful for any feedback, suggestions, or ideas to help improve things :)
- Mike