Project Title: Python-based Quiz Game using Pandas and NumPy
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Preface

This report summarizes the work completed during my industrial internship facilitated by Upskill Campus and UniConverge Technologies Pvt. Ltd. (UCT).
The internship provided me the opportunity to work on a project titled **"Python-based Quiz Game using Pandas and NumPy"**.

The objective was to design a quiz application that loads questions from structured files (CSV), manages data using **pandas**, performs calculations using **NumPy**, and evaluates user performance.

I sincerely thank **Upskill Campus, UCT mentors, and faculty members** who guided me during this internship. This experience enhanced my technical knowledge and gave me practical exposure to industry-like problem-solving.

Introduction

About UniConverge Technologies Pvt. Ltd. (UCT)

UCT, established in 2013, works in Digital Transformation, IoT, Machine Learning, Cloud Computing, and Smart Factory solutions. It provides scalable, sustainable, and ROI-driven industrial applications.

About Upskill Campus (USC)

USC is a career development platform delivering industry training, projects, and internships in collaboration with UCT and The IoT Academy.

Objectives of Internship

- Gain **practical industry exposure**
- Solve **real-world problems**
- Improve technical & problem-solving skills
- Enhance communication and teamwork

Problem Statement

Traditional quizzes are usually manual or static, making them less interactive.
The challenge was to build a **dynamic quiz game** that:

- Reads questions from structured datasets (CSV/JSON)
- Randomizes question order
- Accepts user answers and validates them
- Tracks and calculates scores accurately

Existing and Proposed Solution

Existing

- Manual quizzes or fixed text-based programs.
- No analytics or performance tracking.

Proposed

- Python-based quiz system with **pandas** for data handling.
- **NumPy** for accuracy calculation and randomization.
- Final score reporting and percentage-based performance evaluation.

GitHub Submission (Code): https://github.com/nishant18kc/Python-Quiz-Game..git
GitHub Submission (Report): [placeholder link]

Proposed Design / Model

High-Level Diagram

User → CLI Input → Pandas DataFrame → NumPy Calculations → Score/Result

Low-Level Flow

Load CSV → Shuffle Questions → Display Options → Take Answer →
Check Correctness → Update Score → Show Final Accuracy

Performance Test

Constraints Considered

- Input validation
- Handling missing/wrong data
- Randomization of questions

Test Plan

- Tested with small and large CSV files
- Checked robustness with wrong inputs (e.g., lowercase, invalid letters)

Outcome

- Accurate score tracking
- 100% correct accuracy calculation with NumPy

My Learnings

- Practical use of **pandas** for real-time applications.
- Applied **NumPy** for statistical calculations.
- Improved skills in Python functions, file handling, and error management.
- Learned how to write structured project reports.

Future Work Scope

- Build a **GUI using Tkinter** for better user interaction.
- Add **leaderboards & user score history**.
- Enable **topic-wise quiz selection**.
- Store results in a **database (SQLite/MySQL)** for scalability.

📌 **End of Report**