

Multiple Choice Online system

This project is a **Python-based client-server quiz system**. Users can log in, take a 5-question quiz, and view their scores and the scoreboard. It includes both **CLI** and **GUI (Tkinter)** clients.

Tools and Frameworks

- **Python** , `socket`, `threading`, `pickle`, `tkinter`
- **Persistent data** stored in `users.pkl` using `pickle`
- **TCP/IP** for client-server communication

Features

- User login with password check
- Random quiz generation
- Score calculation and persistent storage
- Scoreboard showing highest scores
- GUI with login, quiz, and result screens

Task Division

- **Hany Osama & Abdelrahman Atef** : Server logic (login, quiz, scoring)
- **Abdulrahman Ali & Hassan Ahmed** : CLI & GUI client (Tkinter)
- **Hany Osama & Abdelrahman Atef**: Testing & integration

Brief Description of Classes and Functions

QuizClient (in GUI)

- **Purpose:** Manages the GUI flow: login, quiz, and results.
- **Key Methods:**
 - **create_login_screen():** Displays login interface.
 - **handle_login():** Sends login info to the server and receives quiz.
 - **show_quiz_screen():** Displays each question and choices.
 - **submit_quiz():** Sends answers, receives results and scoreboard.

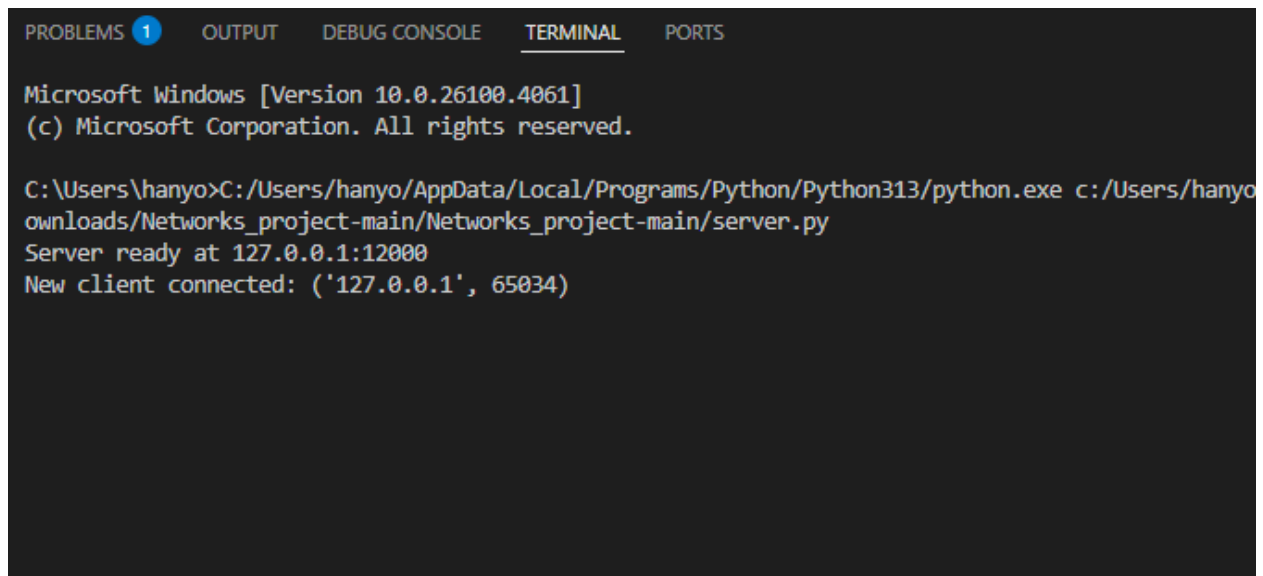
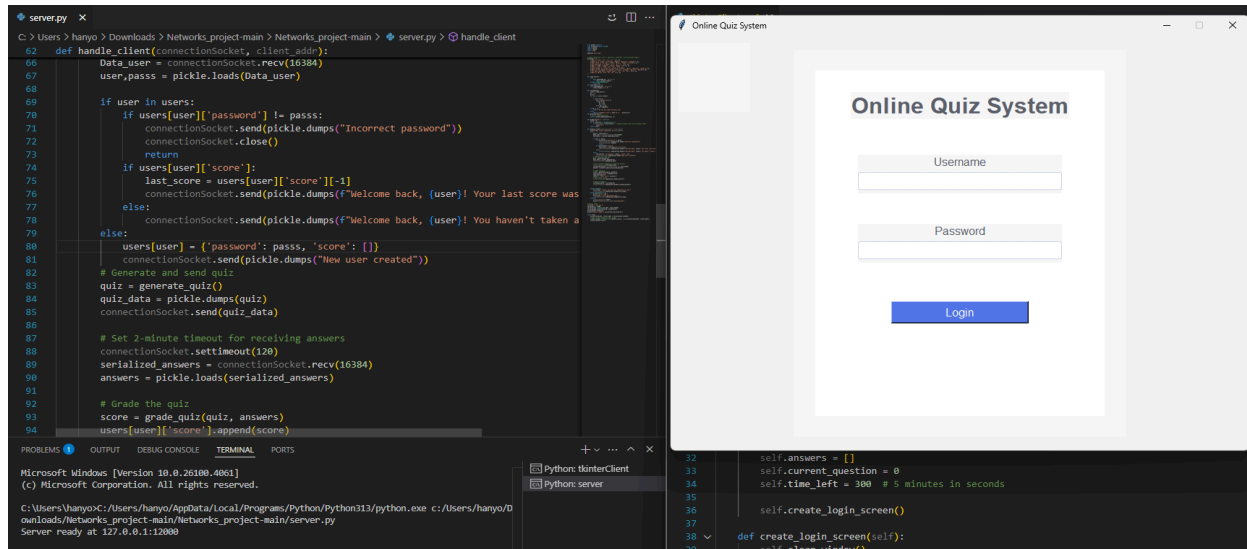
Server Functions

- **handle_client():** Main function handling each client connection. It authenticates users, sends quiz, receives answers, calculates scores, and returns results.
- **generate_quiz():** Randomly selects 5 questions.
- **grade_quiz():** Compares user answers with correct answers and calculates the score.
- **scoreboard():** Returns the name(s) of the top scorer(s).
- **load_users() / save_users():** Handle persistent user data using **pickle**.

Client (CLI)

- Simple script that connects to the server, handles login, quiz answering, and displays result in the terminal.

Some screenshots from the terminals



Online Quiz System

Online Quiz System

Username

Hany Osama

Password

.....

Login

Login

i New user created

OK

Time left: 4:15

Question 3 of 5

How many days in a week?

☐ 5

☐ 6

☐ 7

☐ 8

Next

Quiz Results

Your score: 1/5

Scoreboard

Highest score is 5 by Hany

Exit