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CS 372 Introduction to Networking
Client-Server Chat/Game – Portfolio Assignment
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Introduction

This program is run by running two separate files: server.py and client.py. To start the program run the following command in two separate terminals. The server must be started first and then the client. The port can be configured in the files, but must be the same port in both files. The IP address is currently set to 127.0.0.1, but is also configurable in each of the files. Using /q will cause command on either the server or client will cause both sides of the program to shut down.

Once the server and client are connected, the client is able to start a trivia game where the server will ask the client random questions from a list of about 5,500 trivia questions. The game is started using /game. To end the game by enter /endgame. At the end of the game the server will send the score. During the game portion of the chat an object is created from the triviagame.py file. The trivia_questions.json file holds all the questions and is accessed and read when the game object is generated.

Assumptions: There is no error handling in either the client or server programs. Therefore, entering data in either side of the chat must be done correctly at all times.

Sources:

Code for the chat server was adapted from
The Simplest Python Chat You Can Build
<https://www.youtube.com/watch?v=Ar94t2XhKzM>
Accessed 12/2/2023

Trivia questions were adapted from Open-trivia-database on Github.

<https://github.com/el-cms/Open-trivia-database>.

Accessed 12/2/2023

This database has about 50,000 questions, but I'm only using a subset.

Execution of program

On Windows

Server: python.exe server.py

Client: python.exe client.py

Screenshots of client and server running

Client

```
Windows PowerShell
PS E:\OSU\CS 372\CS-372-Chat-Server> python.exe .\client.py
Client connected to server at 127.0.0.1 on port 4999
Welcome to the server-chat program. Below are a few basic commands that you enter.

Commands:
/q: Quit chat program and shutdown
/game: Start a trivia game
/endgame: End the game
/score: Shows current game score and percent correct answers

You need to wait for the prompt before you are able to send a message
Enter Input > hello
Hi there
Enter Input > /game
Popeye's chief adversary has two names, Bluto and _____
Enter Input > see hag
Sorry, wrong answer

Of what is 98% of the weight of water made?
Enter Input > oxygen
That's correct. Good Job!

What geometric shape has 4 equal sides?
Enter Input > square
That's correct. Good Job!

What Is A Marmoset?
Enter Input > /score
Your current score
Correct Answers: 2
Incorrect Answers: 1
Percentage: 66.67

What is the largest island in the East Indies?
Enter Input > /endgame
Thanks for playing. The number of correctly answered questions was 2. Your percentage correct is 66.67%.
nice job
Enter Input > /q
Client disconnecting
PS E:\OSU\CS 372\CS-372-Chat-Server> |
```

Server

```
Windows PowerShell
PS E:\OSU\CS 372\CS-372-Chat-Server> python.exe .\server.py
Server listening on 127.0.0.1 and port 4999
Client connected on 127.0.0.1 and port 52703
Hi server
Enter Input > hello client
what is your name
Enter Input > Server. What is yours?
Mine is client.
Enter Input > /q

Server disconnecting
PS E:\OSU\CS 372\CS-372-Chat-Server> |
```