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**CS 372-400 SP23**

### Client / Server Chat/Game

Instructions – pg 1

Chat screenshots – pg 2

Game screenshots – pg 3-4

Extra Credit – pg 5

#### Instructions

This program is written in the Python language, to be run using Python 3.9. The py file should be run in an IDE like VS Code or Pycharm.

- 1) To launch the program, open two integrated terminals on the same machine.
- 2) In one run server.py, then in the other run client.py. This will open and establish the chat room between server and client. They can then send messages to each other.
- 3) To start a game of hangman send the message “play hangman” and the game will launch. Once the game concludes it will return to the chat room.
- 4) To end the game and chat room, type “\q” into either terminal. This will close out the socket and close the chat room for both parties.

#### Screenshots of Running Program

## Chat screenshots

### Server

```
PS C:\Users\adirw\School\CS372\Assignments\PortfolioProject> & C:/Users/adirw/AppData/Local/Programs/Python/Python39/python.exe c:/Users/adirw/School/CS372/Assignments/PortfolioProject/server.py

Welcome to the Hangman Chat Room

Server listening on: localhost on port: 3120
Received connection from ( 127.0.0.1 , 63101 )

Nobody has connected to the chat room
Enter /q to exit
Please wait for input prompt before entering message to send

Enter message : Hi Nobody, how are you today?
Nobody : I'm doing fine, and you?
Enter message : Great! How can I help you today?
Nobody : Left chat room
Shutting down

PS C:\Users\adirw\School\CS372\Assignments\PortfolioProject> █
```

### Client

```
PS C:\Users\adirw\School\CS372\Assignments\PortfolioProject> & C:/Users/adirw/AppData/Local/Programs/Python/Python39/python.exe c:/Users/adirw/School/CS372/Assignments/PortfolioProject/client.py

Welcome to the Hangman Chat Room
Enter server address: localhost
Connected to: localhost on port: 3120

Enter your name: Nobody
Server has joined the chat room
Enter /q to exit chat
Please wait for input prompt before entering message to send
Note: to start a game of hangman, type "play hangman"

Server : Hi Nobody, how are you today?
Enter message : I'm doing fine, and you?
Server : Great! How can I help you today?
Enter message : /q
Shutting down

PS C:\Users\adirw\School\CS372\Assignments\PortfolioProject> █
```

Server – client wins

Client – client wins

3

## Server – client loses

```
Nobody has lost a turn. They have 8 guesses left.
Guessed letter: u
Nobody has lost a turn. They have 7 guesses left.
Guessed letter: o
Nobody has lost a turn. They have 6 guesses left.
Guessed letter: i
__ie__
Guessed letter: v
Nobody has lost a turn. They have 5 guesses left.
Guessed letter: c
Nobody has lost a turn. They have 4 guesses left.
Guessed letter: p
Nobody has lost a turn. They have 3 guesses left.
Guessed letter: r
_rie__
Guessed letter: d
_rie_d
Guessed letter: z
Nobody has lost a turn. They have 2 guesses left.
Guessed letter: x
Nobody has lost a turn. They have 1 guesses left.
Guessed letter: s
Nobody has lost a turn. They have 0 guesses left.
Nobody has lost. Exiting to the chat room...
Enter message : 
```

## Client – client loses

```
Enter message : d
Server : _rie_d
Here are the currently revealed letters. Guess a letter

Enter message : z
Server : Wrong letter. You have 2 more guesses

+---+
|   |
| 0 |
|/|\|
|   |
+---+

=====

Enter message : x
Server : Wrong letter. You have 1 more guesses

+---+
|   |
| 0 |
|/|\|
|   |
+---+

=====

Enter message : s
Server : Wrong letter. You have 0 more guesses

+---+
|   |
| 0 |
|/|\|
|   |
+---+

=====

Enter message :
Server : You lose.

+---+
|   |
| 0 |
|/|\|
|   |
+---+

=====

Exiting to the chat room...
Enter message : 
```

### Extra Credit

I included some additional validation for the server while choosing the secret word and for the client while they are making guesses at letters in the secret word.

- The game calls on function `validateSecretWord()` to keep prompting the server to input a valid alphabetical word until one is entered.

```
Welcome to the Hangman Chat Room

Server listening on: localhost on port: 3120
Received connection from ( 127.0.0.1 , 53042 )

Nobody has connected to the chat room
Enter /q to exit
Please wait for input prompt before entering message to send

Enter message : How can I help?
Nobody : play hangman
Choose a word for Nobody to guess: sunn5y
Invalid. Please enter a word with only letters: su%nnny
Invalid. Please enter a word with only letters: 3
Invalid. Please enter a word with only letters: sunny
Nobody is making a guess
█
```

- The game calls on function `validateClientGuess()` to keep prompting the client to input a valid single alphabetical letter until one is entered.

```
Server : hi
Enter message : play hangman
Server : Welcome to a game of hangman!
Guess letters to fill in the secret word
You can make up to 10 wrong guesses
Type "1" to start
Enter message : 1
Server : _____
Here are the currently revealed letters. Guess a letter

Enter message : b
Server : b_____
Here are the currently revealed letters. Guess a letter

Enter message : 5
Server : Invalid guess. Please enter a single alpha letter
Enter message : r
Server : b_r__r
Here are the currently revealed letters. Guess a letter

Enter message : %
Server : Invalid guess. Please enter a single alpha letter
Enter message : g
Server : b_rg_r
Here are the currently revealed letters. Guess a letter
```