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CS 372-400 SP23

Client / Server Chat/Game

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<u>Instructions</u>

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/Ap pData/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>
```

Game screenshots

Server – client wins

```
Enter message : How can I help?
Nobody : Play hangman
Choose a word for Nobody to guess: ham
Nobody is making a guess
Guessed letter: e

Nobody has lost a turn. They have 9 guesses left.

Guessed letter: a

_a_
Guessed letter: m

_am
Guessed letter: s

Nobody has lost a turn. They have 8 guesses left.

Guessed letter: h

ham
Nobody has won! Exiting to the chat room...
Enter message : []
```

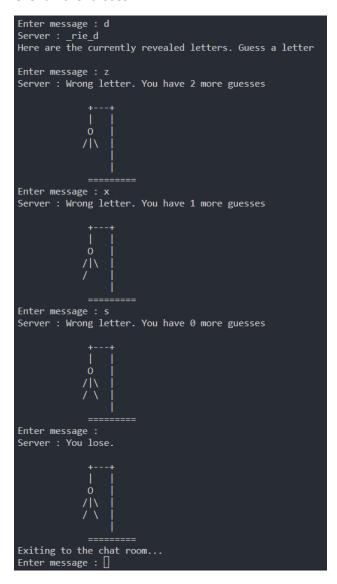
Client – client wins

```
Server : How can I help?
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 : e
Server : Wrong letter. You have 9 more guesses
Enter message : a
Server : a
Here are the currently revealed letters. Guess a letter
Enter message : m
Server : _am
Here are the currently revealed letters. Guess a letter
Enter message : s
Server : Wrong letter. You have 8 more guesses
Enter message : h
Server : ham
Here are the currently revealed letters. Guess a letter
Enter message :
Server : You won! Exiting to the chat room...
Enter message : [
```

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
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
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



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%nny
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
```