



BATTLESHIP SOCKET PROGRAMMING PROJECT

SEAN SHREVE - CYSE 250



Project Idea: Battleship Game with Encryption and Authentication

-Create a small version of the classic *Battleship* board game using Python sockets.

How it Works:

Server: Creates an 8×8 grid and hides three ships (sizes 4, 3, 2).

Client: Connects to the server and plays by guessing coordinates.

Requirements:

- ✓ Socket Programming - client/server communication
- ✓ Encryption & Decryption - XOR cipher for data security
- ✓ Authentication - login system using users.txt
- ✓ File Handling - stores user info
- ✓ Loops, Lists, Dictionaries, Functions - game logic & structure
- ✓ Not a Chat App - turn-based guessing game

Authentication: Players will register or log in with a username and password, which is saved to a file called **users.txt**

Encryption: After login, all messages are scrambled with a simple XOR cipher

Decrypt: Both sides decrypt messages using the same key (the password).