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Python 3.12.5 (v3.12.5:ff3bc82f7c9, Aug 7 2024, 05:32:06) [Clang 13.0.0 (clang-1300.0.29.30)] on darwin
Type "help", "copyright", "credits" or "license()" for more information.

>>>
=== RESTART: /Users/rebeccahight/Documents/ODU/CYSE 250/IdleProjectserver.py ===
Server is running and waiting for connections...

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IdleProjectclient.py

import socket

# Caesar cipher for encryption and decryption
def caesar_encrypt(text, shift):
    return ''.join(chr((ord(char) - 32 + shift) % 95 + 32) for char in text)

def caesar_decrypt(text, shift):
    return ''.join(chr((ord(char) - 32 - shift) % 95 + 32) for char in text)

# Connect to the server
def connect_to_server(host, port):
    client = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    client.connect((host, port))
    return client

# Handle the communication with the server
def handle_server_communication(client, shift):
    logged_in = False # Tracks login status
    while True:
        # Receive menu or prompt from the server
        server_message = client.recv(1024).decode()
        if not server_message:
            break
        print(server_message)

        if "Select an option" in server_message and not logged_in:
            user_input = input("> ").strip()
            client.send(user_input.encode())

            if user_input == "1": # Login
                username = input("Username: ").strip()
                password = input("Password: ").strip()

                encrypted_username = caesar_encrypt(username, shift)
                encrypted_password = caesar_encrypt(password, shift)

                client.send(encrypted_username.encode())
                client.recv(1024) # Acknowledge

                client.send(encrypted_password.encode())
                login_response = client.recv(1024).decode()
                print(login_response)

                if "Login successful" in login_response:
                    logged_in = True
            elif user_input == "2": # Register
                username = input("New Username: ").strip()
                password = input("New Password: ").strip()
```

```
IdleProjectserver.py

import socket
import os
import csv

# Caesar cipher for encryption and decryption
def caesar_encrypt(text, shift):
    return ''.join(chr((ord(char) - 32 + shift) % 95 + 32) for char in text)

def caesar_decrypt(text, shift):
    return ''.join(chr((ord(char) - 32 - shift) % 95 + 32) for char in text)

# Load credentials from a file
def load_credentials():
    if not os.path.exists("credentials.txt"):
        # Create the file if it doesn't exist
        with open("credentials.txt", "w") as file:
            pass # Just create the empty file
    return {}

credentials = {}
with open("credentials.txt", "r") as file:
    for line in file:
        line = line.strip()
        # Skip empty lines and lines that don't contain ":"
        if not line or ":" not in line:
            continue
        username, password = line.split(":", 1) # Use 1 to split only on the first ":"
        credentials[username] = password
    return credentials

# Save credentials to a file
def save_credentials(credentials):
    with open("credentials.txt", "w") as file:
        for username, password in credentials.items():
            file.write(f"{username}:{password}\n")

# Load country and capital data from a CSV file
def load_country_data(file_path):
    country_to_capital = {}
    capital_to_country = {}

    # Open the CSV file
    with open(file_path, mode='r', newline='', encoding='utf-8') as file:
        reader = csv.reader(file)

        # Skip header row
        next(reader)

        # Iterate through rows in the CSV file
        for row in reader:
            country, capitals = row
            if not country or not capitals:
                continue
            country = country.strip()

            # Handle multiple capitals separated by commas
            capitals_list = [capital.strip() for capital in capitals.split(",")]
            country_to_capital[country] = capitals_list

            # Populate the capital_to_country dictionary for each capital
            for capital in capitals_list:
                capital_to_country[capital] = country

    return country_to_capital, capital_to_country

# Handle client requests
```