Ellicium Solutions

Quiz/Assignment – (Json, File handling, Directories, Paths, Matplotlib, Seaborn)

Questions

1. Load the (states.json) data from the JSON file into a Python data structure.
    1. Extract the names of all states with multiple area codes.
    2. Calculate the total number of area codes for each state and store the results in a dictionary.
    3. Identify the state with the highest number of area codes and print its name and the corresponding number of area codes.
2. Write a Python program to convert Python dictionary object (sort by key) to JSON data. Print the object members with indent level 4.
3. Write python code that allows users to register new accounts, log in to existing accounts, and reset their passwords.
    1. For new registration, store unique username and password in text file
    2. For log in check login is valid or not
    3. For password change, check for username and change the password
    4. Use proper error handling
    5. Data should be stored**: username1,password_hash1,email_or_phone1**
    6. Store data in separate folder for employee login, admin login, manager login, etc.
    7. Use os module to create proper directory structure. Check if directories and files if they are exists.
    8. Create a user interface using Streamlit
4. Load following dataset into pandas: https://raw.githubusercontent.com/pandas-dev/pandas/master/doc/data/titanic.csv
    1. Check how data is distributed for numerical columns.
    2. Check correlation of Fare with other columns. Find most influencing column.
    3. Find outliers in ticket fare column
    4. Plot the survival rate based on passenger class.
    5. Analyze the survival rate based on age groups.

5. Create a Streamlit dashboard using the vehicles.csv datafile that allows users to explore vehicle data dynamically. Filter the data by car manufacturer.

*Imp - Understand the data and columns present in the data.

1. User should be able to select the car manufacturer with the help of a select-box
2. Filter the data based on the selected manufacturer and plot 4 types of graphs.
3. The graphs should be relevant and should make sense.
    1. For ex. Plot a scatterplot of Engine size v/s fuel efficiency.