

## Python Data Wrangling Assignment

**Objective:** In this assignment, you will work with a provided CSV file containing medicine-related data(Patient,Visit\_Reason,Date,Visit\_Duration). Your task is to perform data wrangling tasks using Python and the Pandas library. The main focus will be on reading the data, cleaning duplicates, and visualizing the results. This in a clear and structured code, with descriptive variable and function names and comments.

### Tasks:

1. Use the provided CSV file named "visit\_data.csv". This file contains data related to patient visits, reasons for the visit, and dates.
2. Load the data using Pandas and examine its structure. Print out the first few rows of the dataset to understand its contents.
3. Identify and remove any duplicate entries from the dataset. Duplicated entries represent the same patient's visit information and need to be cleaned.
4. Perform the necessary transformations and operations to summarize the data. Create a table that describes an aspect that is significant to you.
5. Visualize the data using one or more charts. Show the data you have prepared in an interesting and understandable way. Label the axes accordingly. **Explain in a block comment why you chose to investigate this aspect and whether you discovered any interesting data trends.**
6. Implement error handling to account for possible issues such as missing files or unexpected data structures.
7. Log your steps throughout the process using the Python `logging` module. Create a log file to record important steps and potential errors encountered during data wrangling.

### Short:

1. Load the CSV file and display its structure.
2. Identify and remove duplicate entries from the dataset.
3. Create a table to summarize the data.
4. Visualize the data using a chart.
5. Implement error handling using `try` and `except` blocks.
6. Implement logging to record steps and errors.

### Submission:

1. Submit a Python script file named "data\_wrangling\_assignment.py" containing your code for the assignment.
2. Submit the log file named "data\_wrangling.log" generated during the process.

**Note:** If you encounter any difficulties or have questions, feel free to reach out to your instructor or use online resources for assistance. Happy coding!