**Plan of Tasks for SQL.**

1. [SQL Retrieve data from tables [33 Exercises]](https://www.w3resource.com/sql-exercises/sql-retrieve-from-table.php)
2. [SQL Boolean and Relational operators [12 Exercises]](https://www.w3resource.com/sql-exercises/sql-boolean-operators.php)
3. [SQL Wildcard and Special operators [22 Exercises]](https://www.w3resource.com/sql-exercises/sql-wildcard-special-operators.php)
4. [SQL Aggregate Functions [25 Exercises]](https://www.w3resource.com/sql-exercises/sql-aggregate-functions.php)
5. [SQL Formatting query output [10 Exercises]](https://www.w3resource.com/sql-exercises/sql-fromatting-output-exercises.php)
6. [SQL Quering on Multiple Tables [8 Exercises]](https://www.w3resource.com/sql-exercises/sql-exercises-quering-on-multiple-table.php)
7. [FILTERING and SORTING on HR Database [38 Exercises]](https://www.w3resource.com/sql-exercises/sorting-and-filtering-hr/index.php)

**Plan of Tasks for Python.**



**Attached files:**

* **Dictionary to understand the dataset.**



* **Dataset**

**Task: Analyzing Yellow Taxi Trip Records**

Based on the data dictionary provided, let's assume you have access to the dataset described in the dictionary. The dataset likely contains detailed records of yellow taxi trips, including information on trip times, distances, fares, and more. Below is a comprehensive task that you can use to practice your data analysis skills with Python.

**Dataset Columns:**

* VendorID
* tpep\_pickup\_datetime
* tpep\_dropoff\_datetime
* Passenger\_count
* Trip\_distance
* PULocationID
* DOLocationID
* RateCodeID
* Store\_and\_fwd\_flag
* Payment\_type
* Fare\_amount
* Extra
* MTA\_tax
* Improvement\_surcharge
* Tip\_amount
* Tolls\_amount
* Total\_amount
* Congestion\_Surcharge
* Airport\_fee

**Analysis Tasks:**

**1. Data Loading and Cleaning**

* Load the dataset into a Pandas DataFrame.
* Handle any missing or inconsistent data.
* Convert date and time columns to appropriate datetime objects.

**2. Descriptive Statistics**

* Calculate summary statistics for numerical columns such as Trip\_distance, Fare\_amount, Tip\_amount, and Total\_amount.
* Determine the distribution of trips by VendorID and Payment\_type.

**3. Trip Analysis**

* Calculate the average trip distance and duration.
* Identify the busiest pickup and dropoff locations.
* Analyze the distribution of trips by RateCodeID.

**4. Financial Analysis**

* Calculate the total revenue generated by trips.
* Determine the average fare amount and total amount for each Payment\_type.
* Analyze the impact of the Congestion\_Surcharge and Airport\_fee on the total fare.

**5. Time-based Analysis**

* Analyze the number of trips over different times of the day, days of the week, and months of the year.
* Determine peak hours for taxi trips.
* Calculate the average trip duration during different times of the day.

**6. Advanced Analysis**

* Identify the percentage of trips with tips and calculate the average tip amount.
* Determine the correlation between trip distance and fare amount.
* Analyze the distribution of Store\_and\_fwd\_flag and its impact on trip metrics.