Uber Trip Analysis

CREATE DATABASE UberDB;

USE UberDB;

--1. Total Trips
SELECT COUNT(*) AS total_trips
FROM [Uber Trip Details];

	total_trips
1	103728

--2. Average Fare & Distance
SELECT
    AVG(fare_amount) AS avg_fare,
    AVG(trip_distance) AS avg_distance
FROM [Uber Trip Details];

	avg_fare	avg_distance
1	12.9983365145083	3.36393076109009

--3. Top 10 Pickup Locations
SELECT TOP 10 l.Location, COUNT(*) AS total_pickups
FROM [Uber Trip Details] t
JOIN [Location Table] l ON t.PULocationID = l.LocationID
GROUP BY l.Location
ORDER BY total_pickups DESC;

	Location	total_pickups
1	Penn Station/Madison Sq West	4475
2	Upper East Side North	4459
3	Upper East Side South	4124
4	Lenox Hill East	3955
5	Upper West Side North	3752
6	Clinton East	3722
7	Lenox Hill West	3617
8	Lincoln Square East	3519
9	Yorkville West	3393
10	Murray Hill	3305

--4. Top 10 Drop-off Locations
SELECT TOP 10 l.Location, COUNT(*) AS total_dropoffs
FROM [Uber Trip Details] t
JOIN [Location Table] l ON t.DOLocationID = l.LocationID
GROUP BY l.Location
ORDER BY total_dropoffs DESC;

	Location	total_dropoffs
1	Upper East Side North	4024
2	East Harlem South	3512
3	Upper East Side South	3357
4	Lenox Hill East	3194
5	Murray Hill	2906
6	Lenox Hill West	2881
7	Upper West Side North	2841
8	Clinton East	2800
9	East Harlem North	2732
10	Yorkville West	2724

--5. Trips by Vehicle Type
SELECT Vehicle, COUNT(*) AS total_trips
FROM [Uber Trip Details]
GROUP BY Vehicle
ORDER BY total_trips DESC;

	Vehicle	total_trips
1	UberX	38744
2	Uber Comfort	17078
3	Uber Black	16710
4	UberXL	16698
5	Uber Green	14498

--6. Payment Type Distribution
SELECT Payment_type, COUNT(*) AS total_trips
FROM [Uber Trip Details]
GROUP BY Payment_type;

	Payment_type	total_trips
1	Google Pay	180
2	Amazon Pay	584
3	Uber Pay	69530
4	Cash	33434

--7. Peak Hour Analysis
SELECT DATEPART(HOUR, Pickup_Time) AS pickup_hour, COUNT(*) AS total_trips
FROM [Uber Trip Details]
GROUP BY DATEPART(HOUR, Pickup_Time)
ORDER BY pickup_hour;

	pickup_hour	total_trips
1	0	1346
2	1	829
3	2	477
4	3	337
5	4	331
6	5	982
7	6	2834
8	7	4135
9	8	4967
10	9	5641
11	10	5970
12	11	6602
13	12	7163
14	13	7226
15	14	7694
16	15	7908
17	16	7576
18	17	7801
19	18	7070
20	19	5479
21	20	3694
22	21	3037
23	22	2584
24	23	2045

--8. Daily Revenue
```sql
SELECT CAST(Pickup_Time AS DATE) AS trip_date,
       SUM(fare_amount + Surge_Fee) AS total_revenue
FROM [Uber Trip Details]
GROUP BY CAST(Pickup_Time AS DATE)
ORDER BY trip_date;
```

	trip_date	total_revenue
1	2024-06-01	43870.9799943771
2	2024-06-02	40187.5899966788
3	2024-06-03	36529.4499994479
4	2024-06-04	41562.6199959405
5	2024-06-05	45334.6699945685
6	2024-06-06	39528.0199966021
7	2024-06-07	32983.3699992504
8	2024-06-08	50819.1199904326
9	2024-06-09	54918.2500015423
10	2024-06-10	53242.4499883838
11	2024-06-11	54383.079992529
12	2024-06-12	56863.959992528
13	2024-06-13	40034.2399971299
14	2024-06-14	30469.3500002157
15	2024-06-15	50358.6199914031
16	2024-06-16	52531.9499891717
17	2024-06-17	54675.7999880761
18	2024-06-18	57680.0699940454
19	2024-06-19	62591.8799909726
20	2024-06-20	42388.529994905
21	2024-06-21	38448.3699999433
22	2024-06-22	62459.6999903545
23	2024-06-23	65170.4099790305
24	2024-06-24	68395.7899925038
25	2024-06-25	70719.0399919413
26	2024-06-26	73774.8699829392
27	2024-06-27	50700.9599927049
28	2024-06-28	44465.7399718482
29	2024-06-29	68698.9999993164
30	2024-06-30	69884.9299975019

SELECT TOP 1 Trip_ID, trip_distance, fare_amount, Vehicle
FROM [Uber Trip Details]
ORDER BY trip_distance DESC;

	Trip_ID	trip_distance	fare_amount	Vehicle
1	103565	144.100006103516	563.789978027344	UberX

--10. Origin–Destination Pairs (OD Matrix)
SELECT TOP 10
    pl.Location AS Pickup,
    dl.Location AS Dropoff,
    COUNT(*) AS total_trips
FROM [Uber Trip Details] t
JOIN [Location Table] pl ON t.PULocationID = pl.LocationID
JOIN [Location Table] dl ON t.DOLocationID = dl.LocationID
GROUP BY pl.Location, dl.Location
ORDER BY total_trips DESC;

	Pickup	Dropoff	total_trips
1	NV	NV	487
2	East Harlem South	East Harlem North	412
3	Upper East Side South	Upper East Side North	395
4	Upper East Side North	Upper East Side South	352
5	Lenox Hill East	Upper East Side North	283
6	Upper East Side North	Midtown East	282
7	Upper East Side North	Lenox Hill East	277
8	Penn Station/Madison Sq West	Midtown Center	274
9	Lincoln Square East	Upper West Side North	260
10	Yorkville West	Lenox Hill East	244