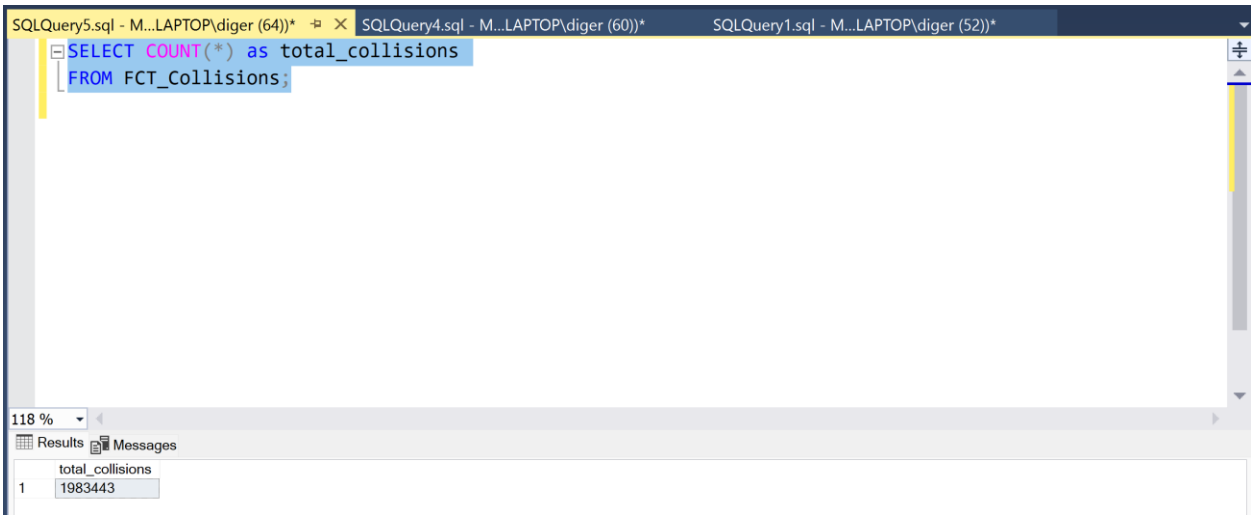
NYC MV Collisions: Business Questions

Metrics:

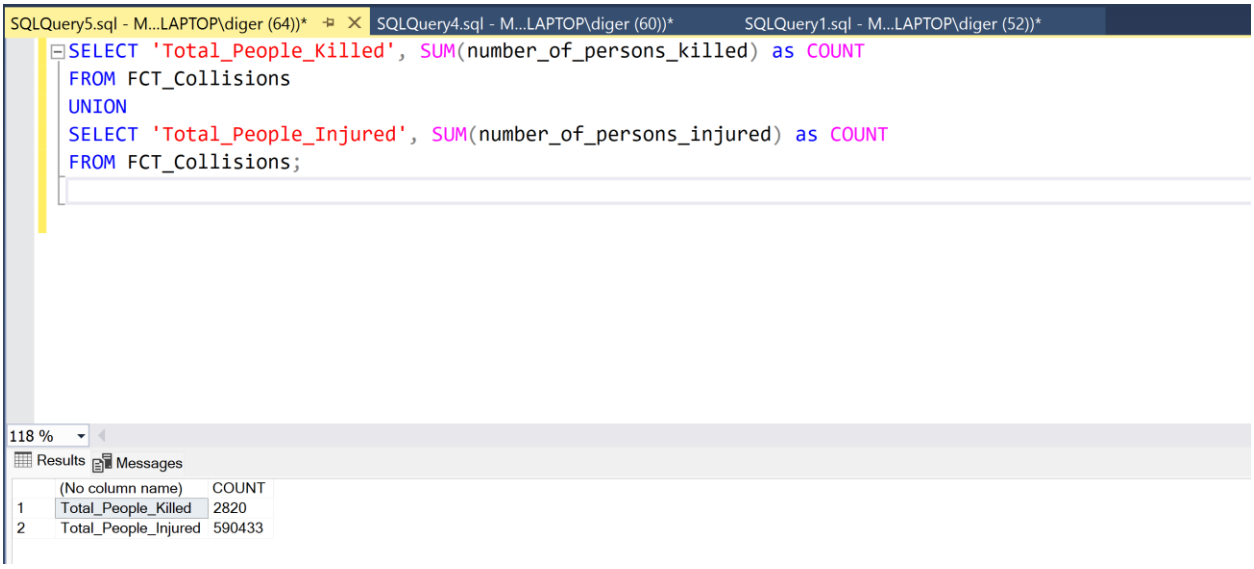
1. **Number of collision**

   SELECT COUNT(*) as total_collisions
   FROM FCT_Collisions;



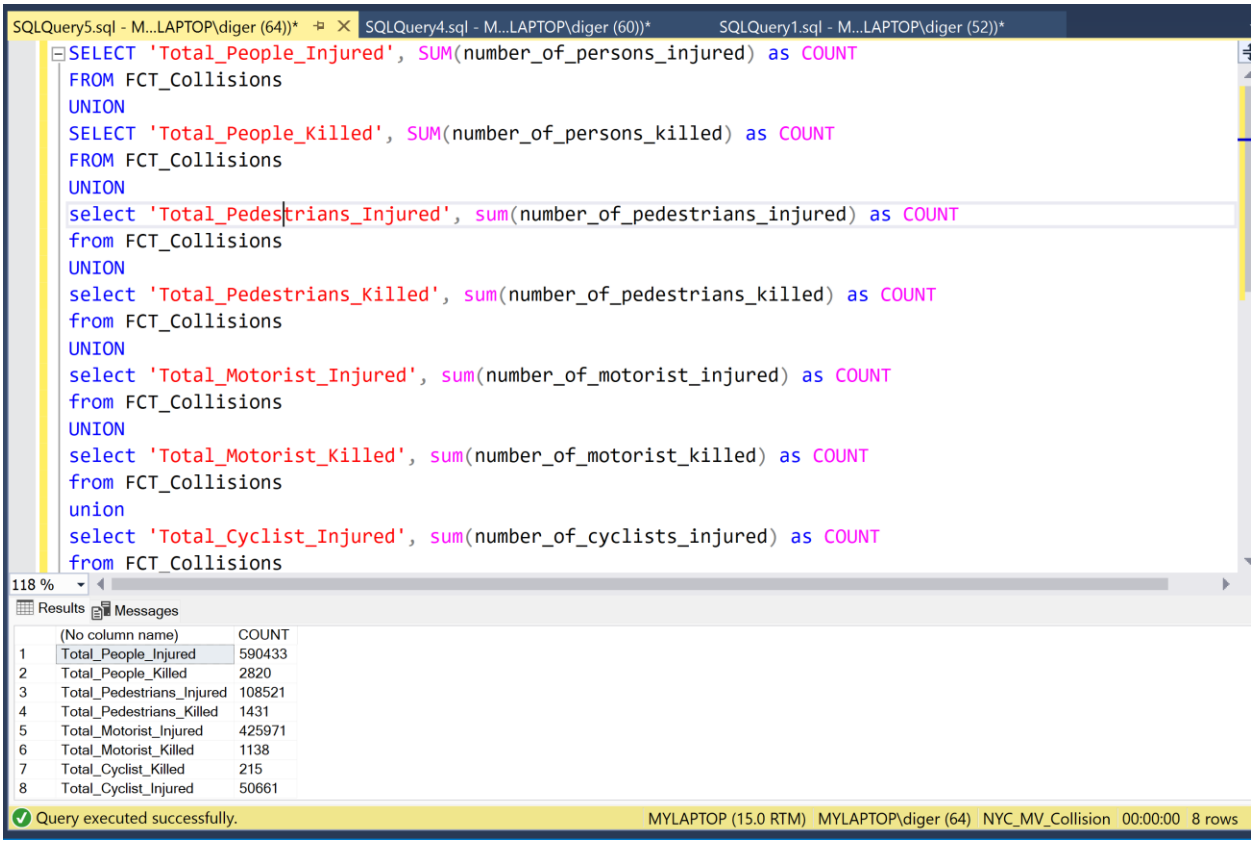
2. **Number of people injured or died**

   SELECT 'Total_People_Killed', SUM(number_of_persons_killed) as COUNT
   FROM FCT_Collisions
   UNION
   SELECT 'Total_People_Injured', SUM(number_of_persons_injured) as COUNT
   FROM FCT_Collisions;



3. **Number of people by role, such as pedestrian, injured or died**

```
SELECT 'Total_People_Injured', SUM(number_of_persons_injured) as COUNT
FROM FCT_Collisions
UNION
SELECT 'Total_People_Killed', SUM(number_of_persons_killed) as COUNT
FROM FCT_Collisions
UNION
select 'Total_Pedestrians_Injured', sum(number_of_pedestrians_injured) as COUNT
from FCT_Collisions
UNION
select 'Total_Pedestrians_Killed', sum(number_of_pedestrians_killed) as COUNT
from FCT_Collisions
UNION
select 'Total_Motorist_Injured', sum(number_of_motorist_injured) as COUNT
from FCT_Collisions
UNION
select 'Total_Motorist_Killed', sum(number_of_motorist_killed) as COUNT
from FCT_Collisions
union
select 'Total_Cyclist_Injured', sum(number_of_cyclists_injured) as COUNT
from FCT_Collisions
union
select 'Total_Cyclist_Killed', sum(number_of_cyclists_killed) as COUNT
from FCT_Collisions;
```



4. **Number of vehicles involved**

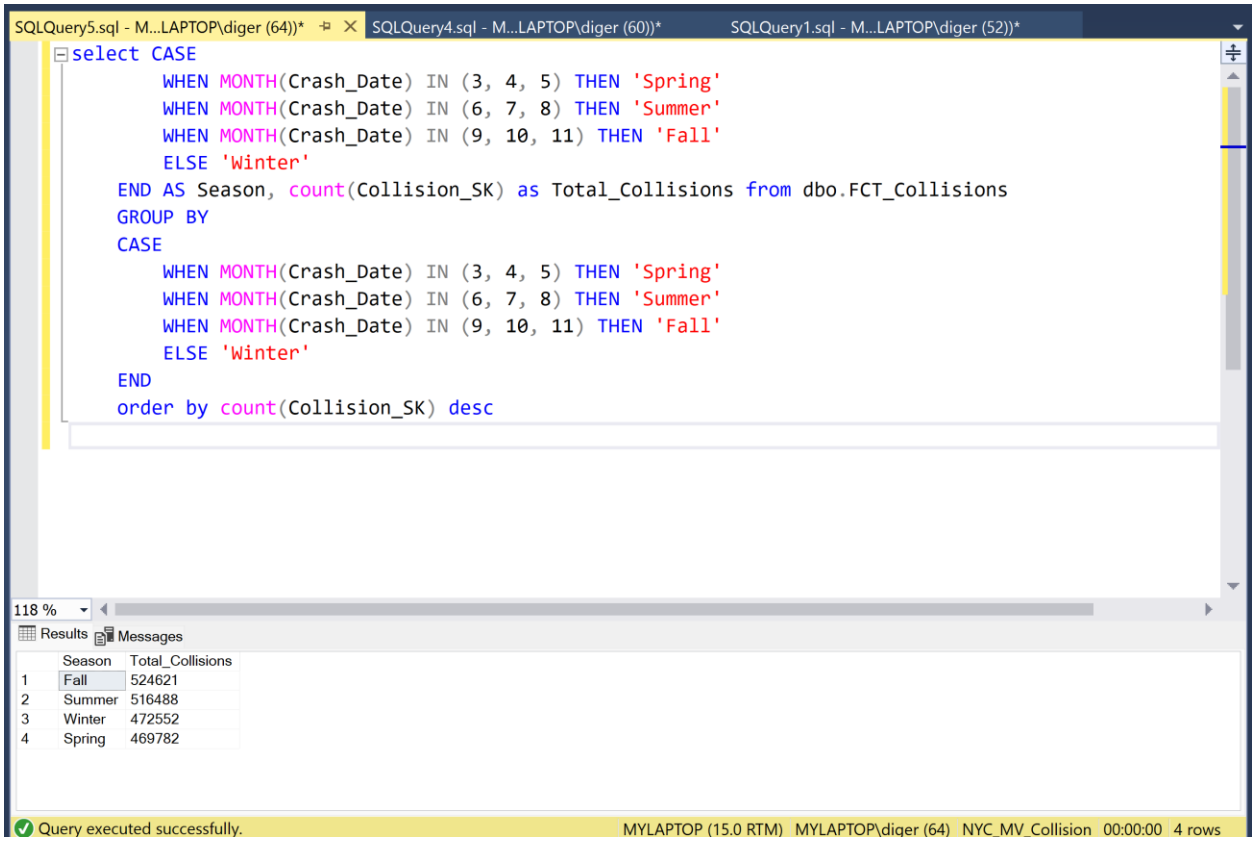
select count(a.Vehicle_SK) from dbo.Dim_Vehicle a, dbo.fct_person_vehicle b, dbo.FCT_Collisions c
where a.Vehicle_SK = b.vehicle_sk
and c.Collision_SK = b.collision_sk

Dimensions:

1. **Trend (granularity month, year), also seasonality, i.e., Spring, Summer, Fall and Winter**

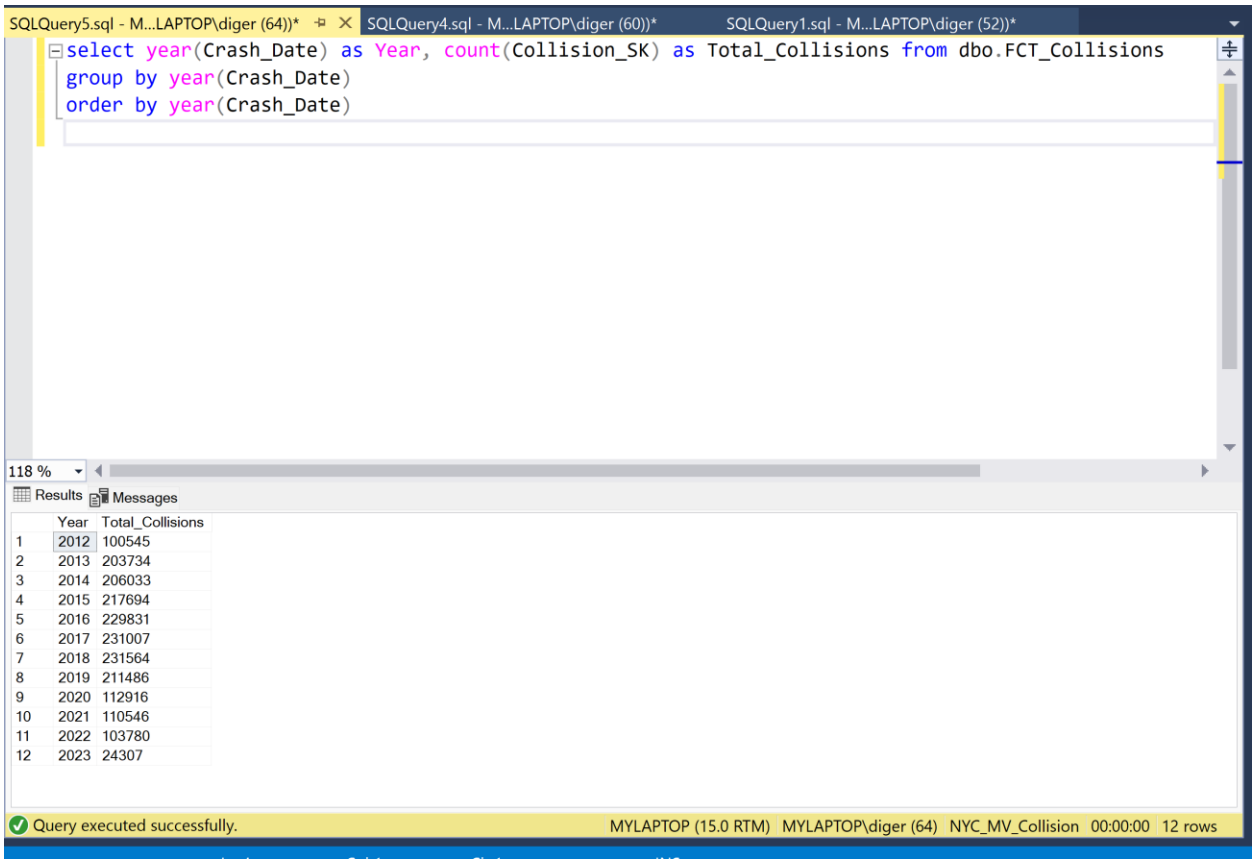
```
select CASE
        WHEN MONTH(Crash_Date) IN (3, 4, 5) THEN 'Spring'
        WHEN MONTH(Crash_Date) IN (6, 7, 8) THEN 'Summer'
        WHEN MONTH(Crash_Date) IN (9, 10, 11) THEN 'Fall'
        ELSE 'Winter'
    END AS Season, count(Collision_SK) as Total_Collisions from
dbo.FCT_Collisions
     GROUP BY
    CASE
        WHEN MONTH(Crash_Date) IN (3, 4, 5) THEN 'Spring'
        WHEN MONTH(Crash_Date) IN (6, 7, 8) THEN 'Summer'
        WHEN MONTH(Crash_Date) IN (9, 10, 11) THEN 'Fall'
```

ELSE 'Winter'
END
order by count(Collision_SK) desc



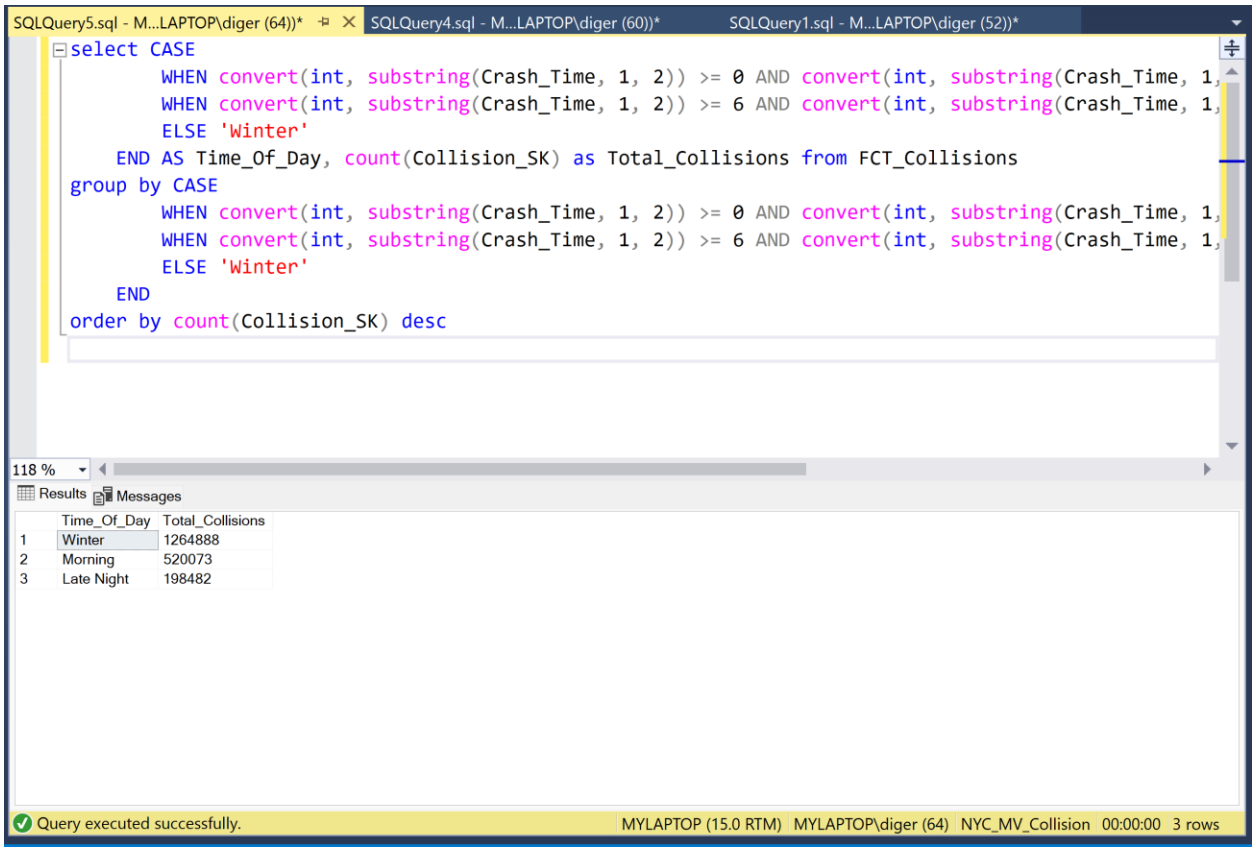
2. **Annual statistics**

select year(Crash_Date) as Year, count(Collision_SK) as Total_Collisions from dbo.FCT_Collisions
group by year(Crash_Date)
order by year(Crash_Date)



3. **Time of day (hour granularity)**

```
select CASE
      WHEN convert(int, substring(Crash_Time, 1, 2)) >= 0 AND convert(int,
substring(Crash_Time, 1, 2)) < 6 THEN 'Late Night'
      WHEN convert(int, substring(Crash_Time, 1, 2)) >= 6 AND convert(int,
substring(Crash_Time, 1, 2)) < 12 THEN 'Morning'
      ELSE 'Winter'
   END AS Time_Of_Day, count(Collision_SK) as Total_Collisions from
FCT_Collisions
group by CASE
      WHEN convert(int, substring(Crash_Time, 1, 2)) >= 0 AND convert(int,
substring(Crash_Time, 1, 2)) < 6 THEN 'Late Night'
      WHEN convert(int, substring(Crash_Time, 1, 2)) >= 6 AND convert(int,
substring(Crash_Time, 1, 2)) < 12 THEN 'Morning'
      ELSE 'Winter'
   END
order by count(Collision_SK) desc
```



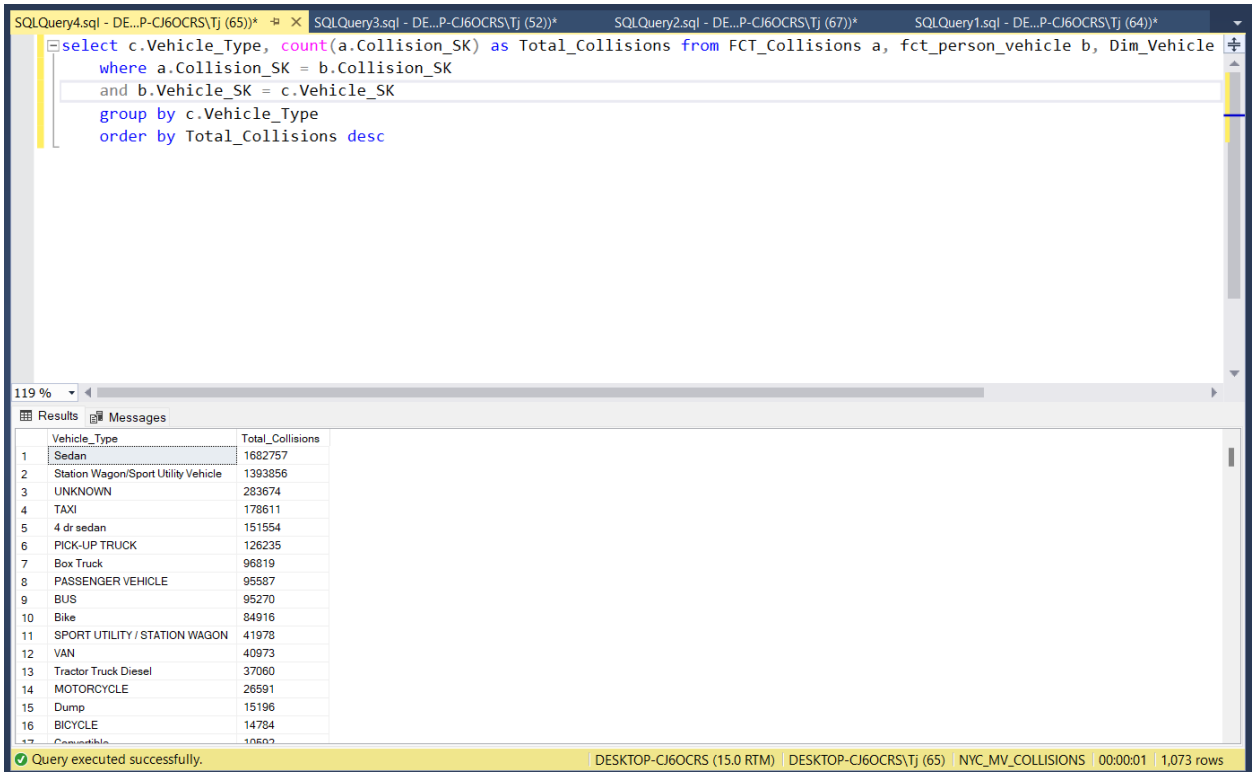
4. **Vehicle Types**

select c.Vehicle_Type, count(a.Collision_SK) as Total_Collisions from FCT_Collisions a, fct_person_vehicle b, Dim_Vehicle c

where a.Collision_SK = b.Collision_SK

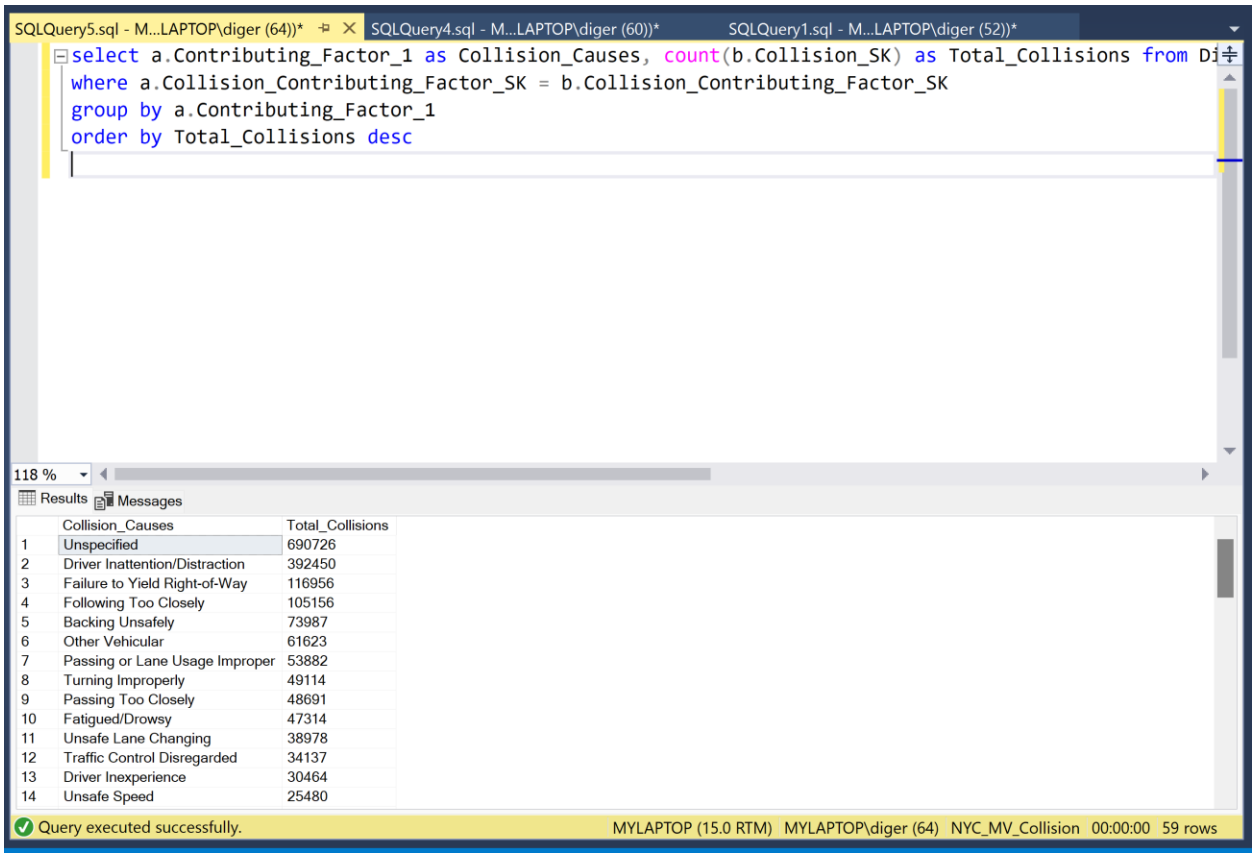
and b.Vehicle_SK = c.Vehicle_SK

order by Total_Collisions desc



5. **Collision Causes**

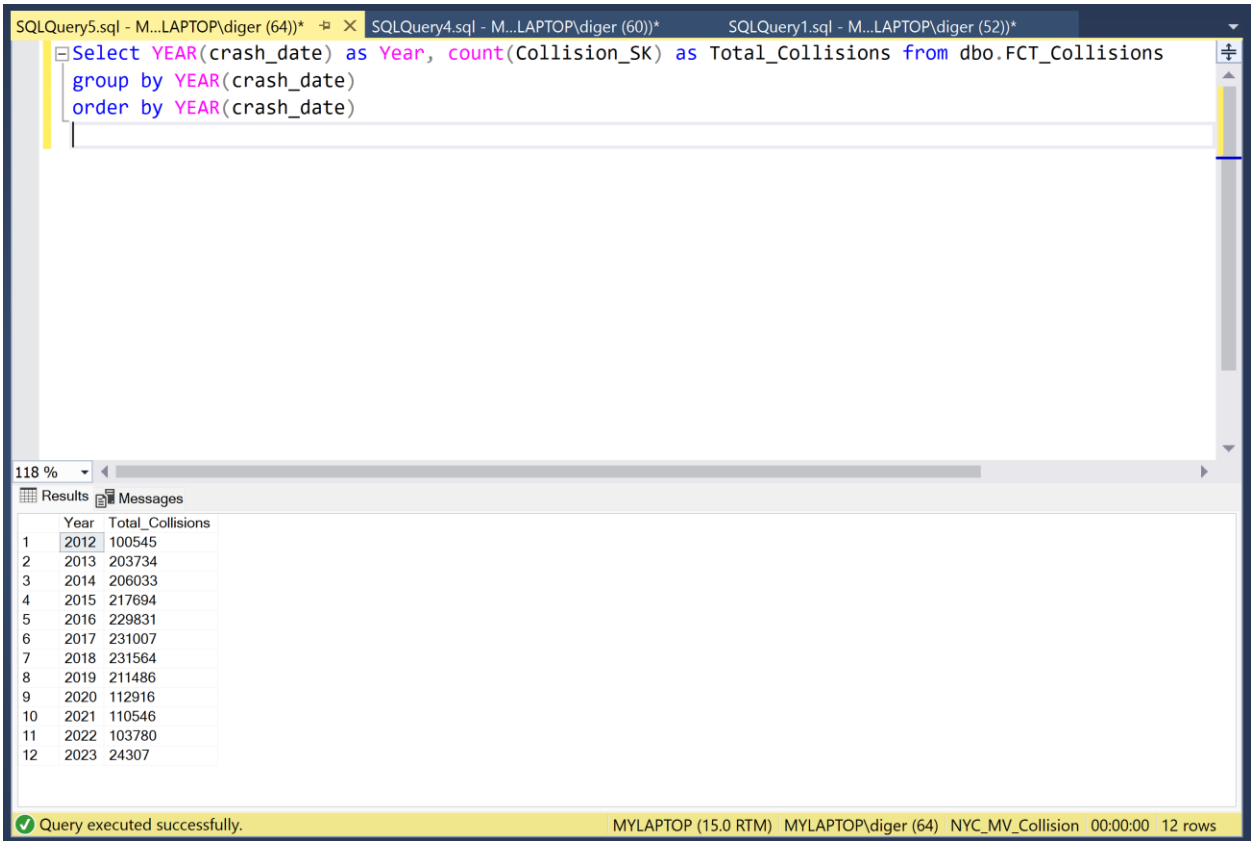
select a.Contributing_Factor_1 as Collision_Causes, count(b.Collision_SK) as Total_Collisions from Dim_Collision_Contributing_Factors a, FCT_Collisions b
where a.Collision_Contributing_Factor_SK = b.Collision_Contributing_Factor_SK
group by a.Contributing_Factor_1
order by Total_Collisions desc



	Collision_Causes	Total_Collisions
1	Unspecified	690726
2	Driver Inattention/Distraction	392450
3	Failure to Yield Right-of-Way	116956
4	Following Too Closely	105156
5	Backing Unsafely	73987
6	Other Vehicular	61623
7	Passing or Lane Usage Improper	53882
8	Turning Improperly	49114
9	Passing Too Closely	48691
10	Fatigued/Drowsy	47314
11	Unsafe Lane Changing	38978
12	Traffic Control Disregarded	34137
13	Driver Inexperience	30464
14	Unsafe Speed	25480

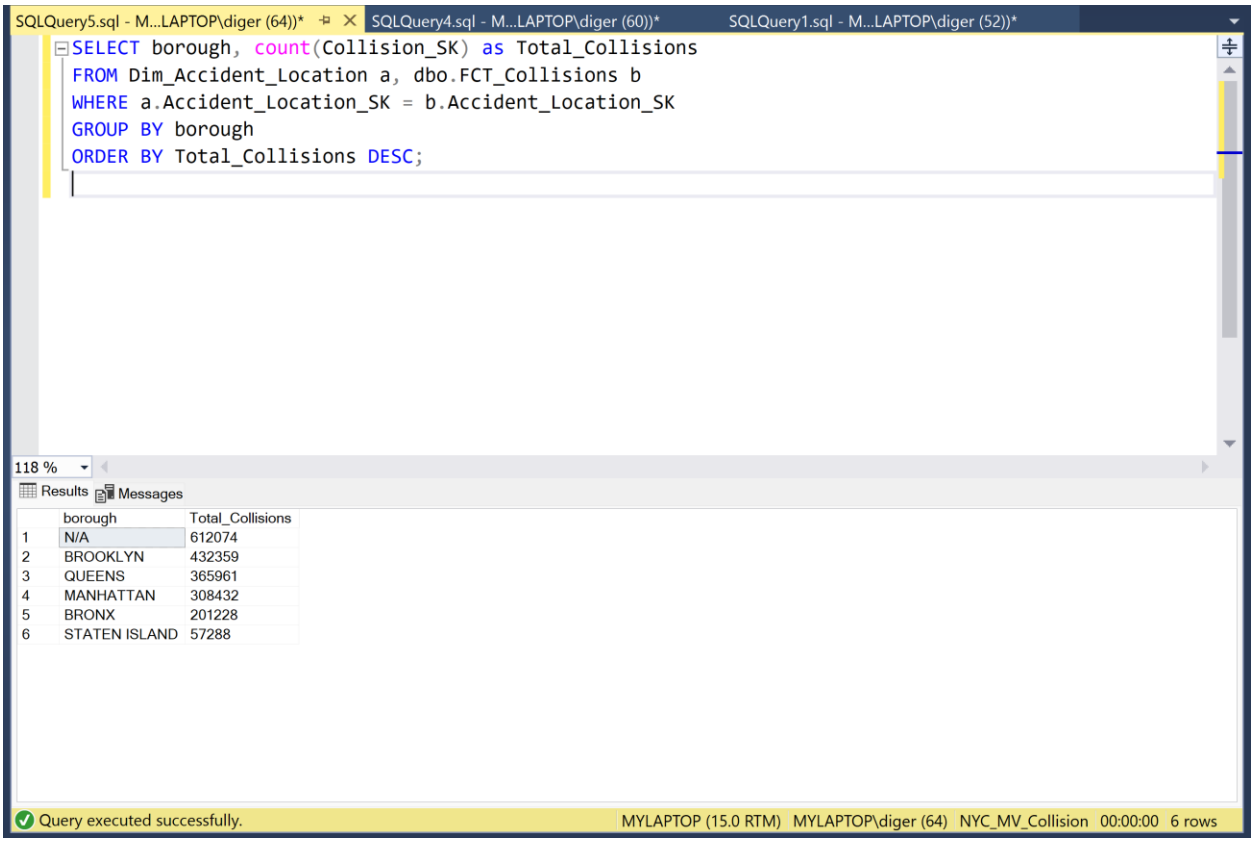
Business Questions:

1. **How Many Car Accidents Are There in NYC Every Year?**
   Select YEAR(crash_date) as Year, count(Collision_SK) as Total_Collisions from dbo.FCT_Collisions
   group by YEAR(crash_date)
   order by YEAR(crash_date)



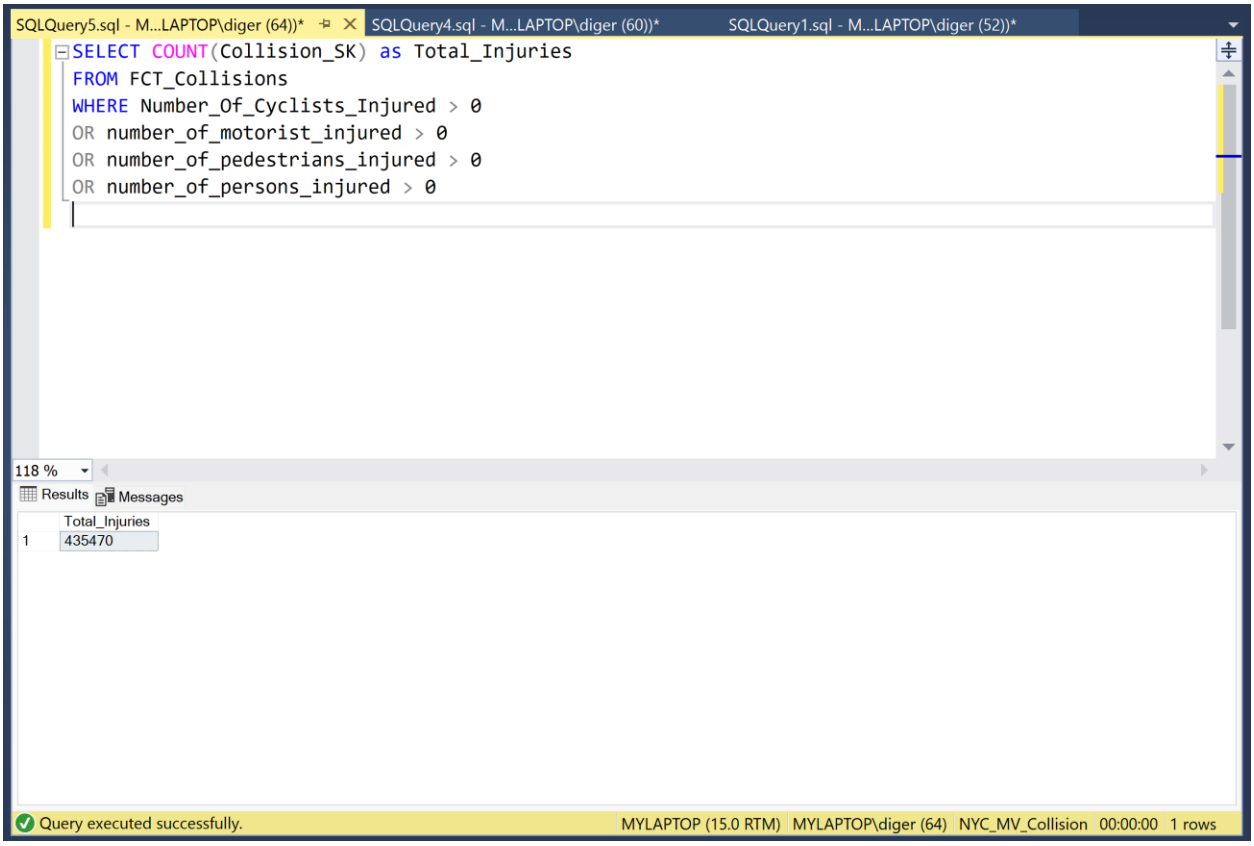
2. **Which Boroughs in New York City Have the Most Accidents?**

```
SELECT borough, count(Collision_SK) as Total_Collisions
FROM Dim_Accident_Location a, dbo.FCT_Collisions b
WHERE a.Accident_Location_SK = b.Accident_Location_SK
GROUP BY borough
ORDER BY Total_Collisions DESC;
```



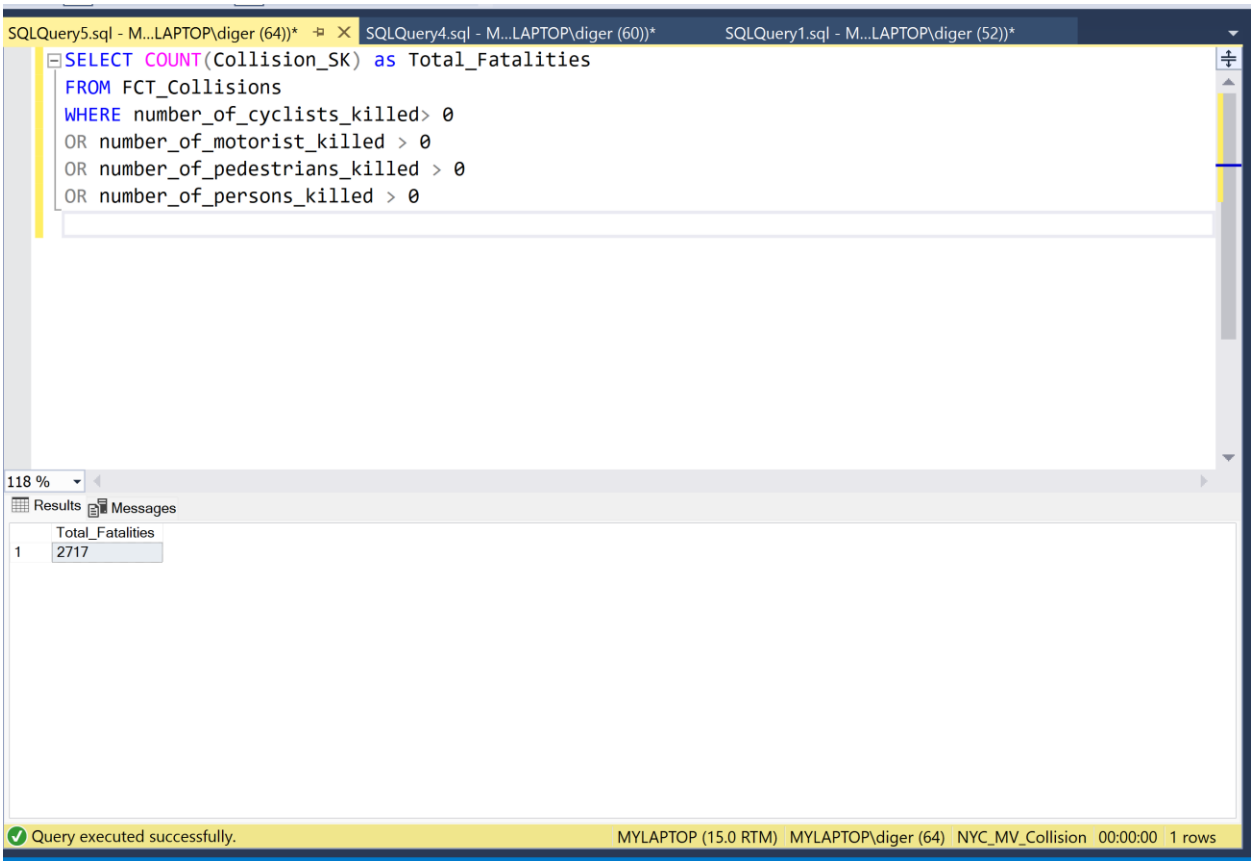
3. **How Many NYC Car Accidents Result in an Injury?**

```
SELECT COUNT(Collision_SK) as Total_Injuries
FROM FCT_Collisions
WHERE Number_Of_Cyclists_Injured > 0
OR number_of_motorist_injured > 0
OR number_of_pedestrians_injured > 0
OR number_of_persons_injured > 0
```

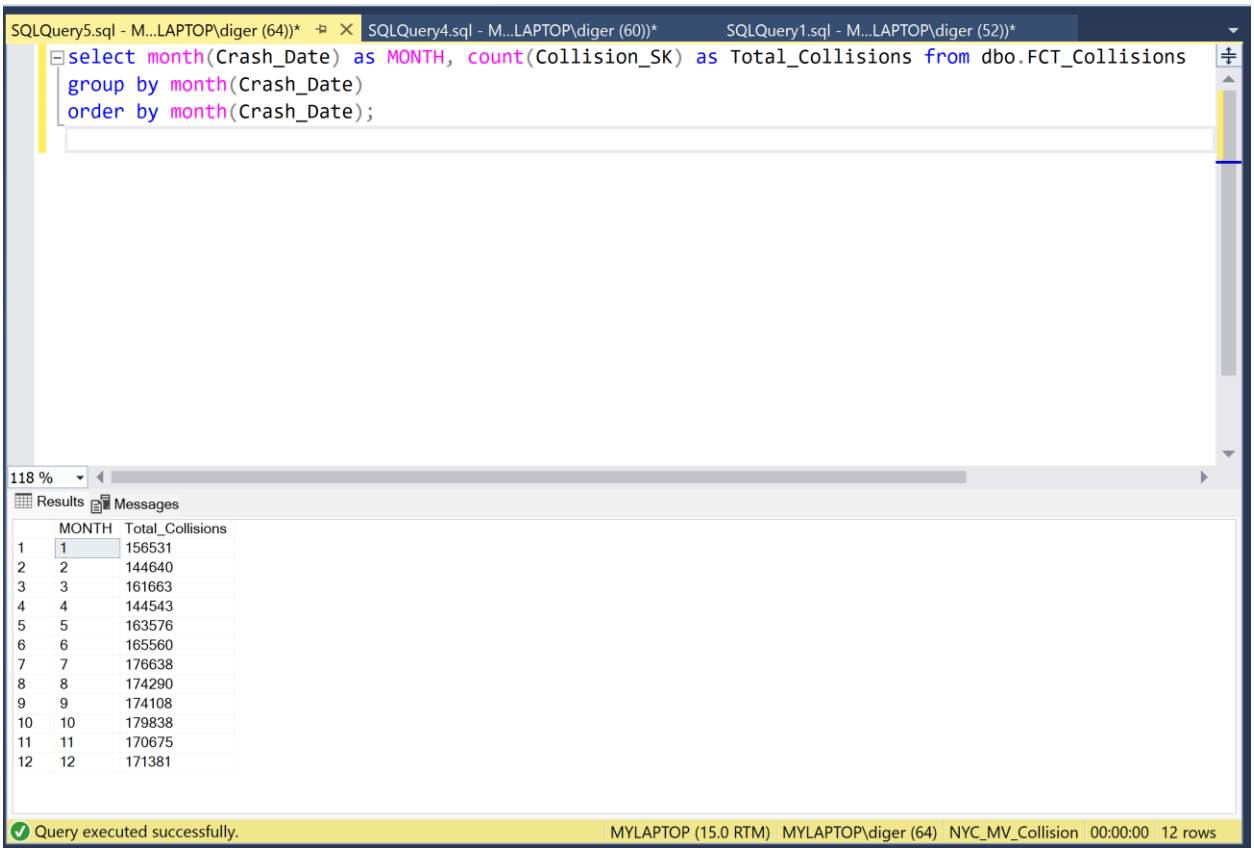


4. **Which NYC Borough Has the Most Fatal Car Accidents?**

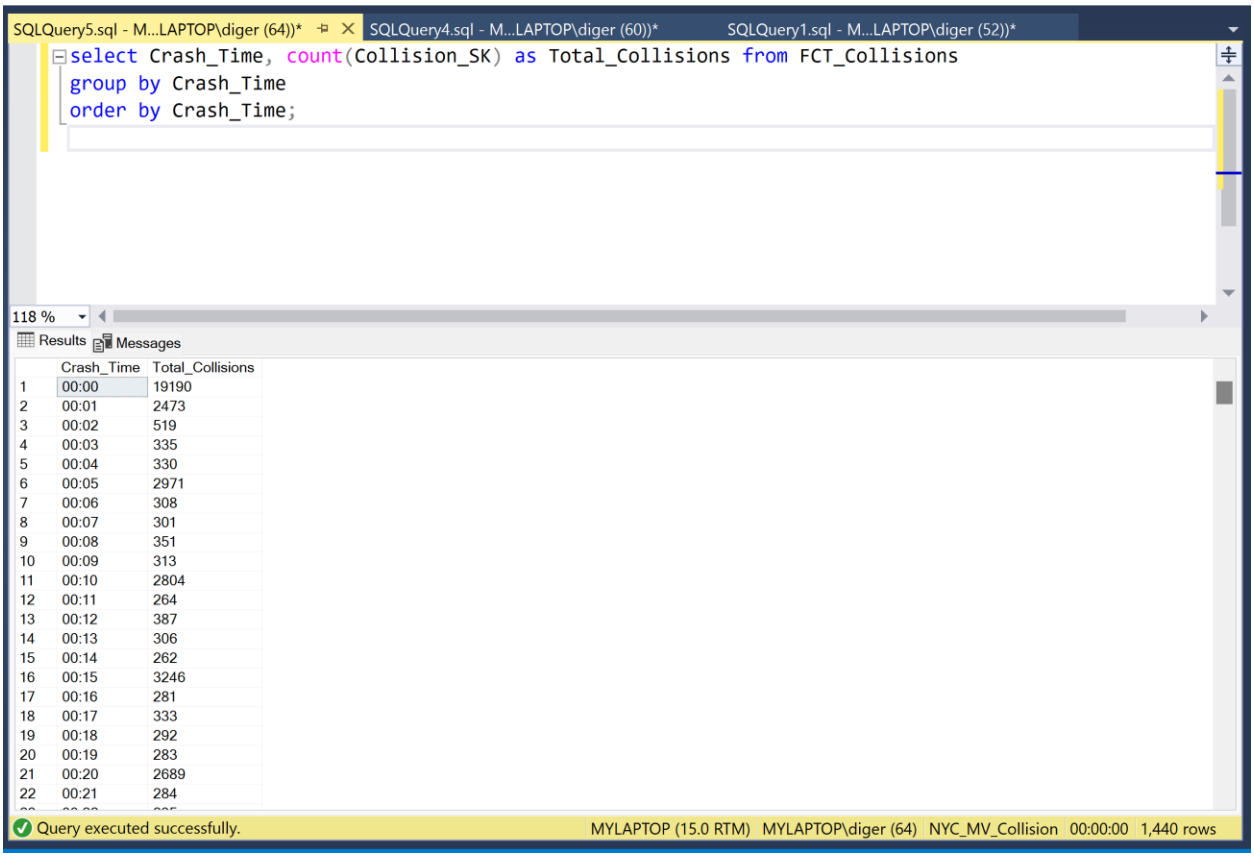
```
SELECT COUNT(Collision_SK) as Total_Fatalities
FROM FCT_Collisions
WHERE number_of_cyclists_killed> 0
OR number_of_motorist_killed > 0
OR number_of_pedestrians_killed > 0
OR number_of_persons_killed > 0
```



5. **When Do Most New York City Car Accidents Happen?**
   select month(Crash_Date) as MONTH, count(Collision_SK) as Total_Collisions from dbo.FCT_Collisions
   group by month(Crash_Date)
   order by month(Crash_Date);



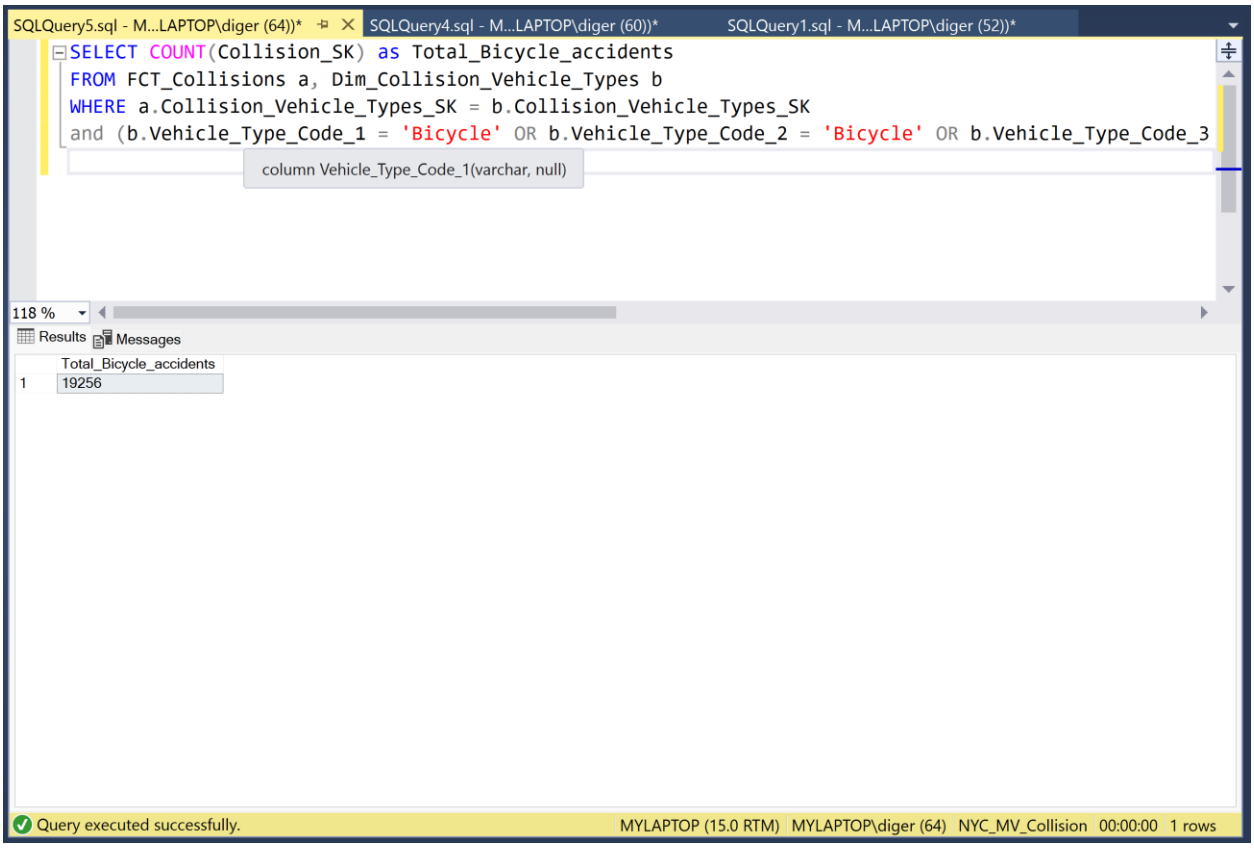
select Crash_Time, count(Collision_SK) as Total_Collisions from FCT_Collisions
group by Crash_Time
order by Crash_Time;



	Crash_Time	Total_Collisions
1	00:00	19190
2	00:01	2473
3	00:02	519
4	00:03	335
5	00:04	330
6	00:05	2971
7	00:06	308
8	00:07	301
9	00:08	351
10	00:09	313
11	00:10	2804
12	00:11	264
13	00:12	387
14	00:13	306
15	00:14	262
16	00:15	3246
17	00:16	281
18	00:17	333
19	00:18	292
20	00:19	283
21	00:20	2689
22	00:21	284

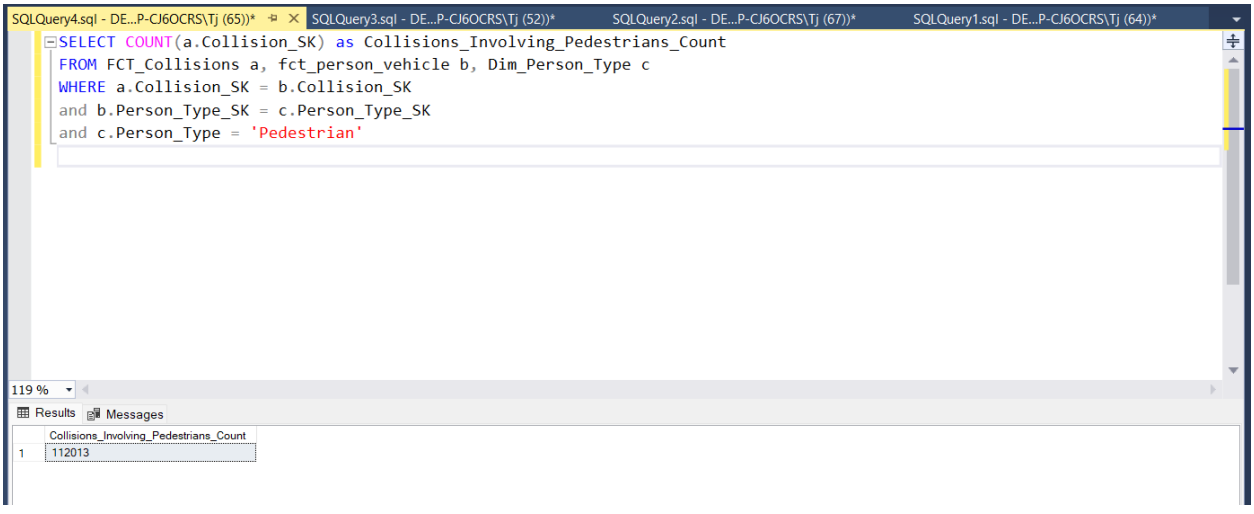
6. **How Common Are Bicycle Accidents in NYC?**

```
SELECT COUNT(Collision_SK) as Total_Bicycle_accidents
FROM FCT_Collisions a, Dim_Collision_Vehicle_Types b
WHERE a.Collision_Vehicle_Types_SK = b.Collision_Vehicle_Types_SK
and (b.Vehicle_Type_Code_1 = 'Bicycle' OR b.Vehicle_Type_Code_2 = 'Bicycle' OR
b.Vehicle_Type_Code_3 = 'Bicycle' OR b.Vehicle_Type_Code_4 = 'Bicycle' OR
b.Vehicle_Type_Code_5 = 'Bicycle')
```



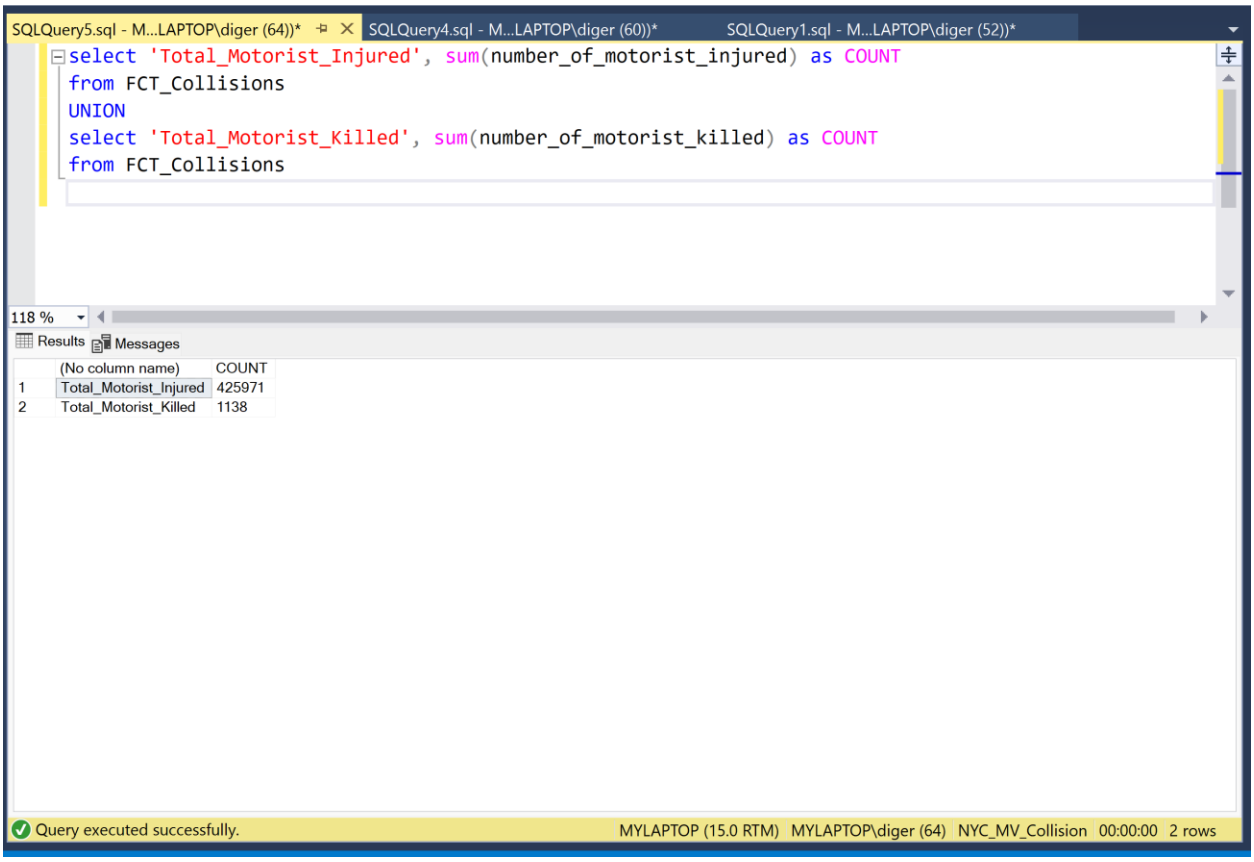
7. **How Often Are Pedestrians Involving New York Traffic Accidents?**

```
SELECT COUNT(a.Collision_SK) as Collisions_Involving_Pedestrians_Count
FROM FCT_Collisions a, fct_person_vehicle b, Dim_Person_Type c
WHERE a.Collision_SK = b.Collision_SK
and b.Person_Type_SK = c.Person_Type_SK
and c.Person_Type = 'Pedestrian'
```



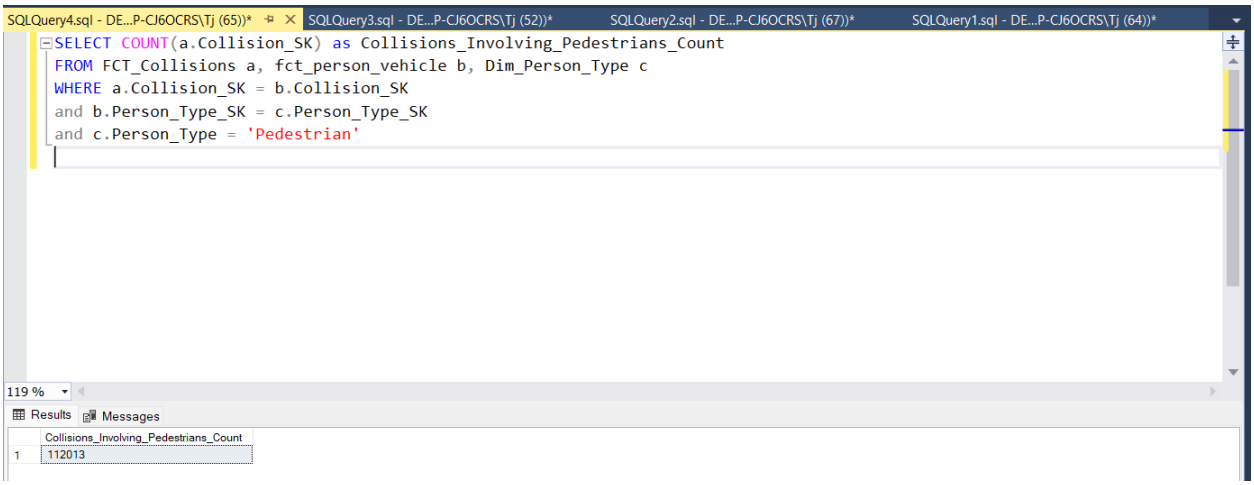
8. **How Many Motorcyclists are Injured or Killed in NYC Accidents?**

```
select 'Total_Motorist_Injured', sum(number_of_motorist_injured) as COUNT
from FCT_Collisions
UNION
select 'Total_Motorist_Killed', sum(number_of_motorist_killed) as COUNT
from FCT_Collisions
```



9. **Are Trucks involved in many New York Accidents?**

```
select count(a.Collision_SK) as Trucks_Involved_Count from dbo.FCT_Collisions a,
dbo.FCT_Person_Vehicle b, dbo.Dim_Vehicle c
where a.Collision_SK = b.Collision_SK
and c.Vehicle_SK = b.Vehicle_SK
and upper(c.Vehicle_Make) like '%TRUCK%'
```


SQLQuery4.sql - DE...P-CJ6OCRS\Tj (65))*
SQLQuery3.sql - DE...P-CJ6OCRS\Tj (52))*
SQLQuery2.sql - DE...P-CJ6OCRS\Tj (67))*
SQLQuery1.sql - DE...P-CJ6OCRS\Tj (64))*
SELECT COUNT(a.Collision_SK) as Collisions_Involving_Pedestrians_Count
FROM FCT_Collisions a, fct_person_vehicle b, Dim_Person_Type c
WHERE a.Collision_SK = b.Collision_SK
and b.Person_Type_SK = c.Person_Type_SK
and c.Person_Type = 'Pedestrian'
119 %
Results
Messages
Collisions_Involving_Pedestrians_Count
1
112013