



DAD 220 Analysis and Summary Template

```
mysql> CREATE TABLE PartsMaintenance(Vehicle: D Big: nt, State varchar(25), Repair varchar(50), Reason varchar(50), YEAR int, Make varchar(50), BodyType varchar(50));
Query OK, 0 rows affected (0.07 sec)

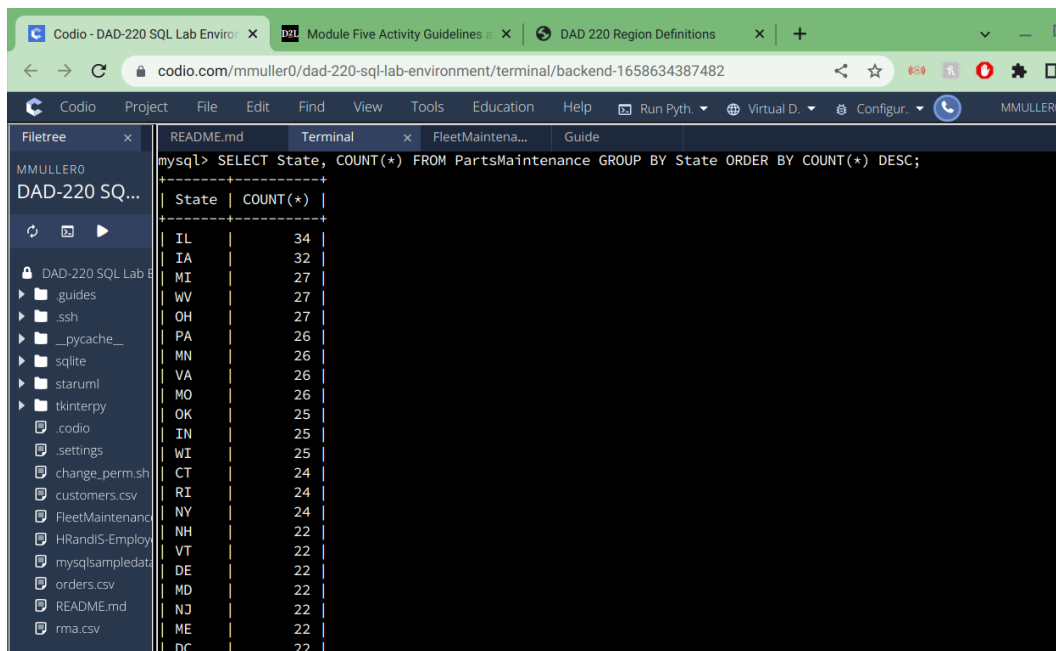
mysql> LOAD DATA :NF: LE '/home/codio/workspace/FleetMaintenanceRecords.csv' :NTO TABLE Muller.PartsMaintenance F: ELDS TERM: NATED BY ', ' :GNORE 1 ROWS;
Query OK, 805 rows affected (0.02 sec)
Records: 805 Deleted: 0 Skipped: 0 Warnings: 0
```

1. Analyze the data you've been provided with to **identify themes**:
 - a. Which parts are being replaced most?
 - i. The Fuel tank is replaced the most with the next most common repairs being Tire repair and Tire replacement

```
mysql> SELECT Repair, COUNT(*) FROM PartsMaintenance GROUP BY Repair ORDER BY COUNT(*) DESC;
+-----+-----+
| Repair | COUNT(*) |
+-----+-----+
| Fuel tank | 95 |
| Tire repair | 74 |
| Tire replacement | 66 |
| Windshield replacement | 63 |
| Battery replacement | 56 |
| Wheel Arch | 55 |
| Fender replacement | 54 |
| Rocker Panel | 53 |
| Brake line replacement | 52 |
| Struts | 51 |
| Cab corner panel | 49 |
| Shocks | 47 |
| Dent Repair Left Fender | 37 |
| Transmission | 28 |
| Dent Repair Rear | 25 |
+-----+-----+
15 rows in set (0.00 sec)

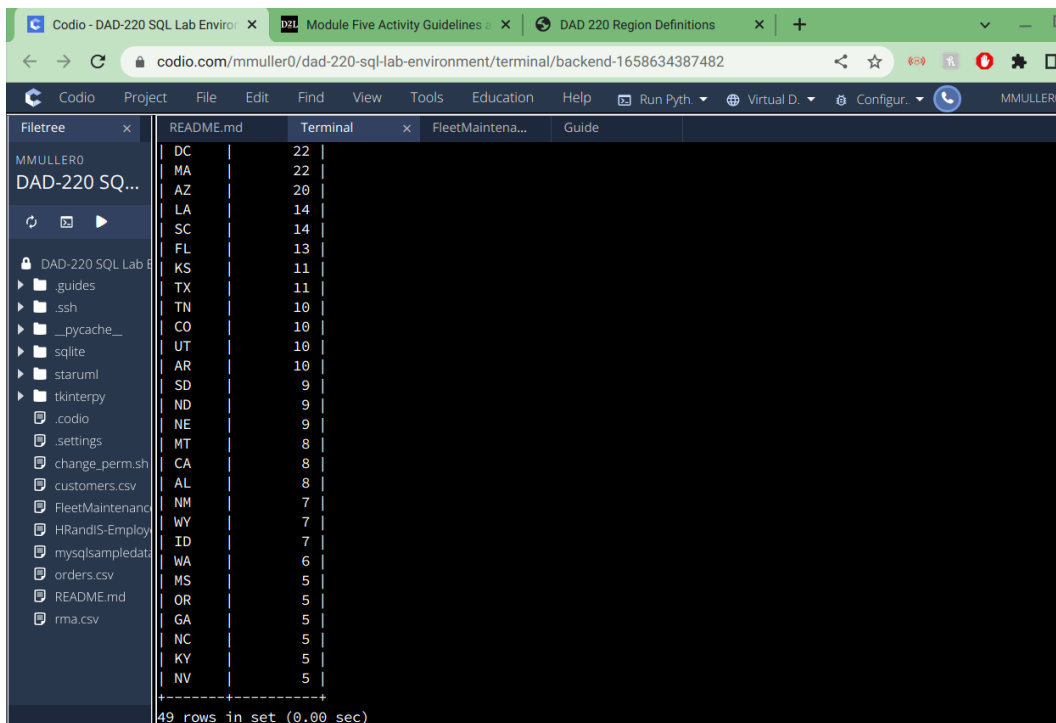
mysql>
```

- b. Is there a region of the country that experiences more part failures and replacements than others?
 - i. Identify region:
 1. The Midwest experiences the most part failures and replacements with 260 records in the table. This is followed by the Northeast with 208 and the Southeast with 186.



```
mysql> SELECT State, COUNT(*) FROM PartsMaintenance GROUP BY State ORDER BY COUNT(*) DESC;
```

State	COUNT(*)
IL	34
IA	32
MI	27
WV	27
OH	27
PA	26
MN	26
VA	26
MO	26
OK	25
IN	25
WI	25
CT	24
RI	24
NY	24
NH	22
VT	22
DE	22
MD	22
NJ	22
ME	22
DC	22



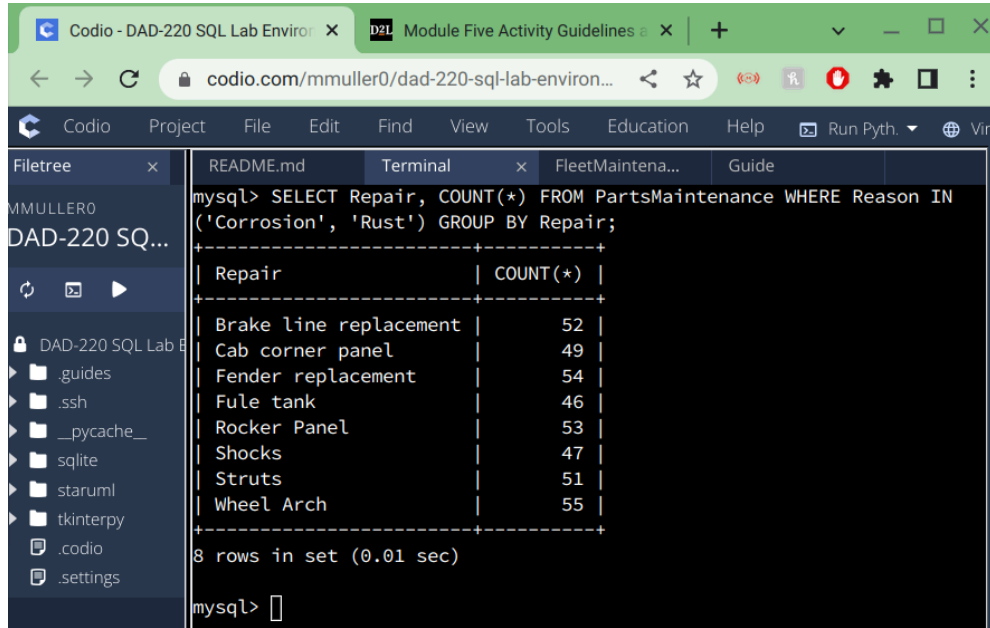
```
mysql> SELECT State, COUNT(*) FROM PartsMaintenance GROUP BY State ORDER BY COUNT(*) ASC;
```

State	COUNT(*)
DC	22
MA	22
AZ	20
LA	14
SC	14
FL	13
KS	11
TX	11
TN	10
CO	10
UT	10
AR	10
SD	9
ND	9
NE	9
MT	8
CA	8
AL	8
NM	7
WY	7
ID	7
WA	6
MS	5
OR	5
GA	5
NC	5
KY	5
NV	5

49 rows in set (0.00 sec)

- ii. How might the fleet maintenance team use the information to update its maintenance schedule?
 1. The fleet maintenance team can use this information to update its maintenance schedule by concentrating efforts in the regions that require the most maintenance. For example, the West and Southwest regions experience much less part failures and replacements compared to other regions so the maintenance team should focus more of their work in the other regions.

- c. Which parts are being replaced most due to corrosion or rust?
- The part being replaced most due to corrosion or rust is the Wheel Arch with 55 repairs. This is followed by a Fender replacement with 54 and the Rocker Panel with 53.



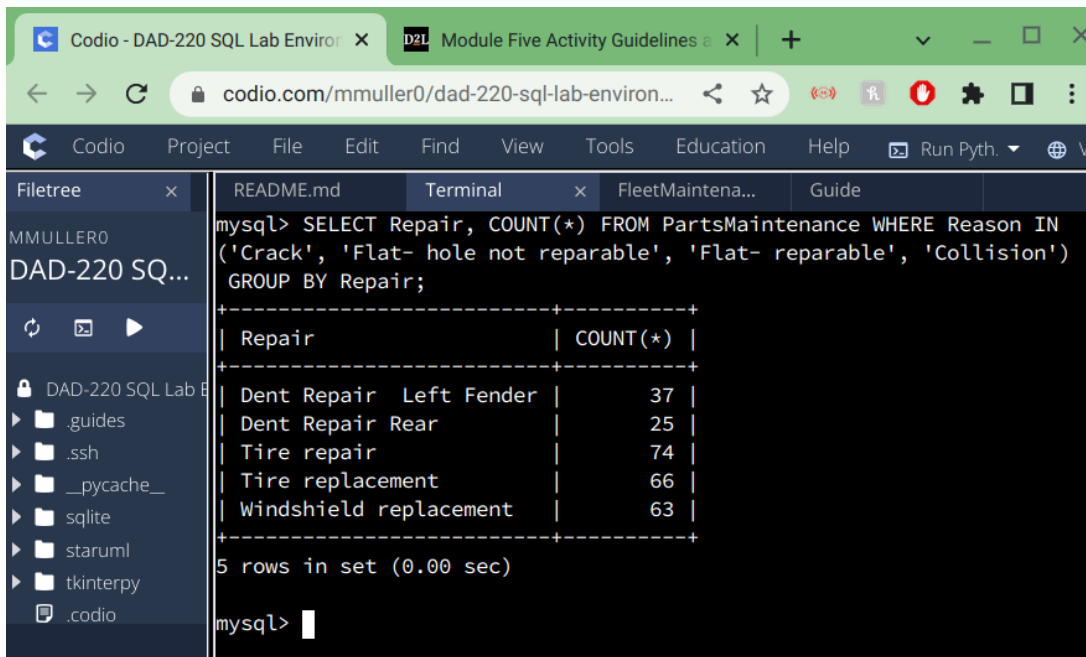
```
mysql> SELECT Repair, COUNT(*) FROM PartsMaintenance WHERE Reason IN ('Corrosion', 'Rust') GROUP BY Repair;
```

Repair	COUNT(*)
Brake line replacement	52
Cab corner panel	49
Fender replacement	54
Fule tank	46
Rocker Panel	53
Shocks	47
Struts	51
Wheel Arch	55

```
8 rows in set (0.01 sec)

mysql>
```

- d. Which parts are being replaced most because of mechanical failure or accident, like a flat tire or rock through the windshield?
- Tires and windshields are being replaced most because of mechanical failure or accident.



```
mysql> SELECT Repair, COUNT(*) FROM PartsMaintenance WHERE Reason IN ('Crack', 'Flat- hole not reparable', 'Flat- reparable', 'Collision') GROUP BY Repair;
```

Repair	COUNT(*)
Dent Repair Left Fender	37
Dent Repair Rear	25
Tire repair	74
Tire replacement	66
Windshield replacement	63

```
5 rows in set (0.00 sec)

mysql>
```



2. **Write a brief summary of your analysis** that takes the information from Step 1 and presents it in a way that nontechnical stakeholders can understand.
 - a. The company does the most business in the Midwest region, followed by the Northeast and the Southeast. The West and Southwest regions experience much less part failures and replacements compared to other regions so the maintenance team should focus more of their work in the other regions. The part being replaced most due to corrosion or rust is the wheel arch while tires and windshields are being replaced most because of mechanical failure or accident.
3. **Outline the approach** that you took to conduct the analysis.
 - a. What queries did you use to identify trends or themes in the data?
 - i. `SELECT State, COUNT(*) FROM PartsMaintenance GROUP BY State ORDER BY COUNT(*) DESC;`
 - ii. `SELECT Repair, COUNT(*) FROM PartsMaintenance WHERE Reason IN ('Corrosion', 'Rust') GROUP BY Repair;`
 - iii. `SELECT Repair, COUNT(*) FROM PartsMaintenance WHERE Reason IN ('Crack', 'Flat- hole not reparable', 'Flat- reparable', 'Collision') GROUP BY Repair;`
 - b. What are the benefits of using these queries to retrieve the information in a way that allows you to provide valuable information to your stakeholders?
 - i. The ability to perform these queries to retrieve specific information from large stores of data is extremely valuable for companies. Massive amounts of data can be quickly navigated and analyzed for patterns that can inform business decisions.

Explain how the functions in the analysis tool allowed you to organize the data and retrieve records quickly.

- c. The functions in the analysis tool made it easy to organize a large store of data, such as the one in the FleetMaintenanceRecords.csv file, into a table that made it much easier to manage. From there, functions like SELECT, FROM, and WHERE allowed me to quickly retrieve specific bits of information.