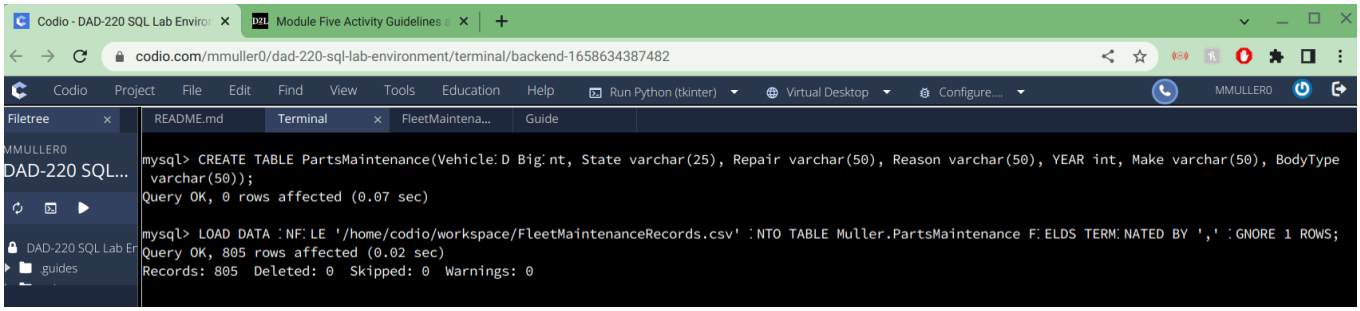
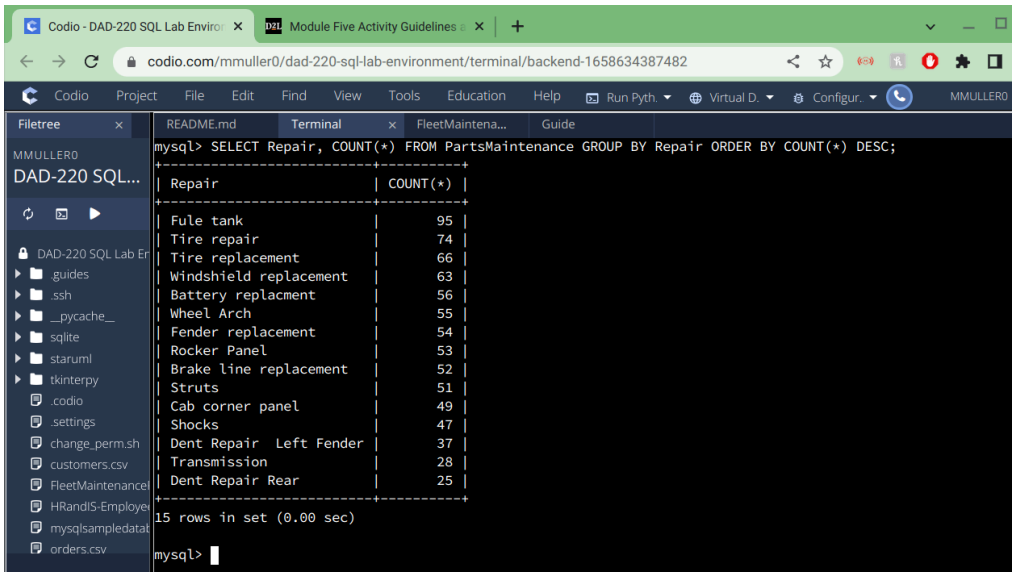
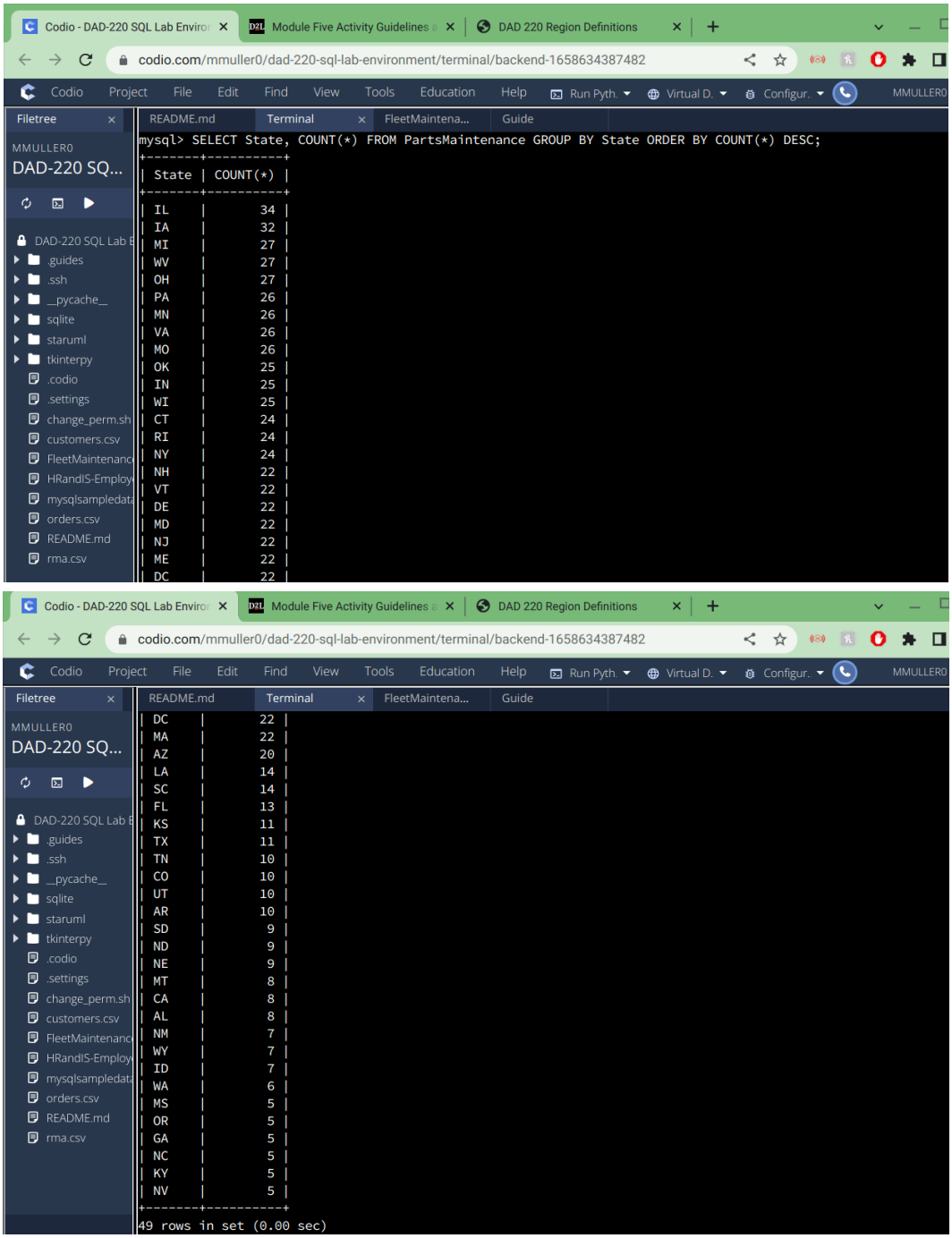
DAD 220 Analysis and Summary Template



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



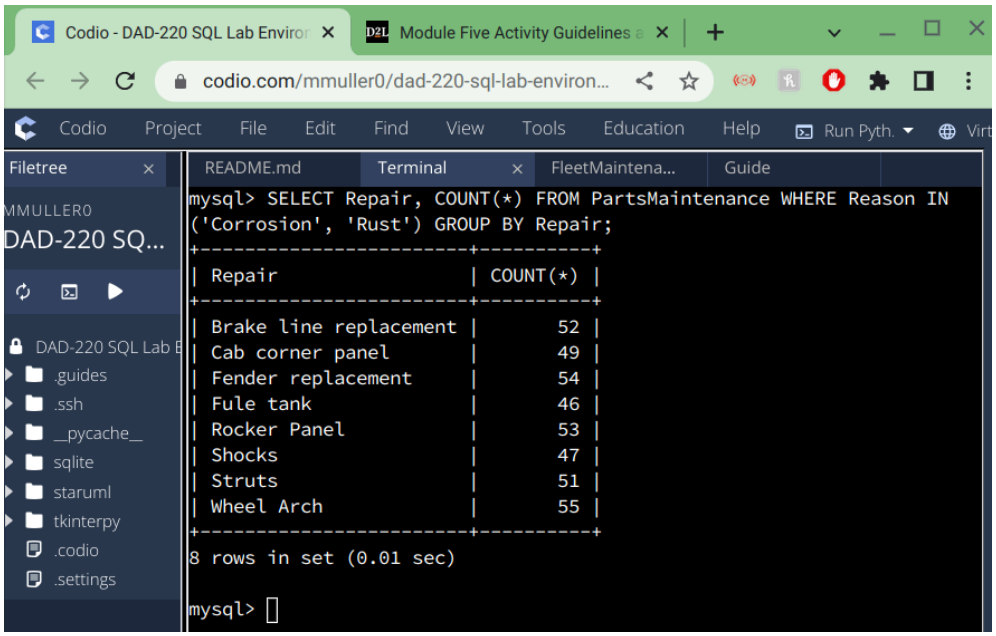
    b. Is there a region of the country that experiences more part failures and replacements than others?
        i. Identify region:
            1. The Midwest experiences the most part failures and replacements with 260 records in the table. This is followed by the Northeast with 208 and the Southeast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



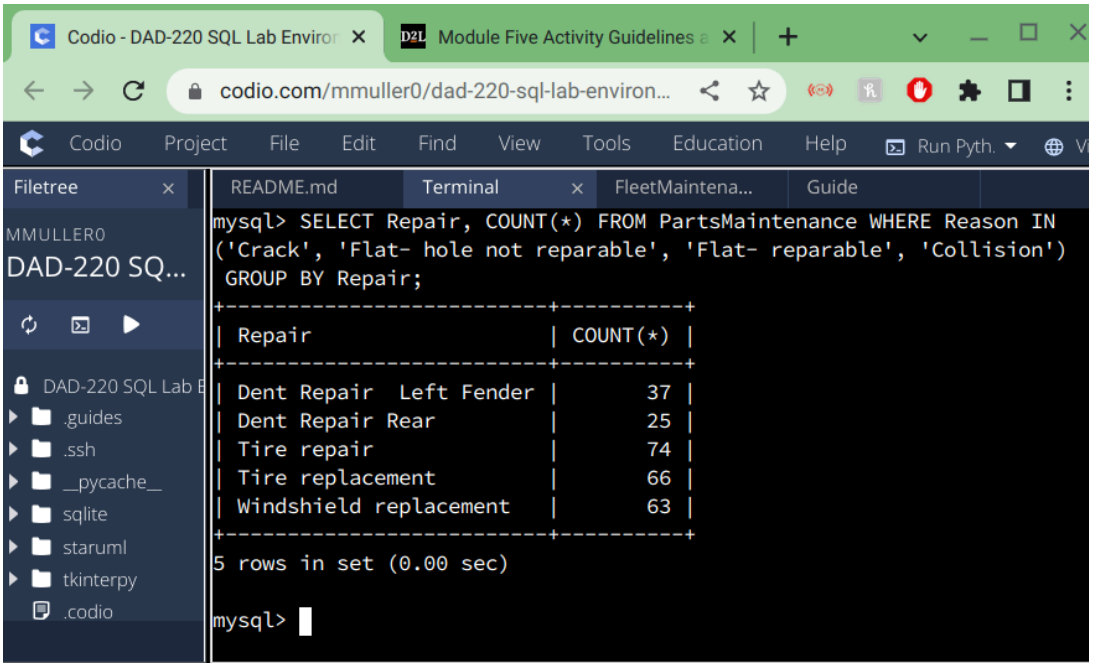
ii. How might the fleet maintenance team use the information to update its maintenance schedule?

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?
    i. 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.



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



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.