DAD 220 Analysis and Summary Template

Replace the bracketed text in this template with your responses and any supporting screenshots. Then submit it to the Module Five Activity for grading and feedback. Rename this document by adding your last name to the file name before you submit.

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| QuantigrationRMA   |
| candiaperez        |
| mysql              |
| performance_schema |
+--------------------+
5 rows in set (0.00 sec)

mysql> use candiaperez;
Database changed
mysql>
```

Haley's starting screenshot as per email (I lost all my databases last week, so this is what I have remade so far.)

1. **Analyze the data** you've been provided with to **identify themes**:
    a. Which parts are being replaced most?

```
mysql> SELECT repair AS PART_REPAIR, COUNT(*) AS NUMBER_OF_REPAIRS
    -> FROM parts_maintenance
    -> GROUP BY PART_REPAIR
    -> ORDER BY NUMBER_OF_REPAIRS DESC;
+-------------------------+-------------------+
| PART_REPAIR             | NUMBER_OF_REPAIRS |
+-------------------------+-------------------+
| Fule 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 |
| Repair                  |                 1 |
+-------------------------+-------------------+
16 rows in set (0.00 sec)
```

    i. **According to the information pulled, the most replaced parts are the Fule(sp) tank at 95, Tire repair at 74, and Tire replacement at 66, and so on.**

b. Is there a region of the country that experiences more part failures and replacements than others?
    i. Identify region: **the Midwest**

```
mysql> SELECT 'SOUTHWEST' AS REGION, COUNT(*) AS NUMBER_OF_REPAIRS
    -> FROM parts_maintenance
    ->     WHERE UPPER(state) IN ('AZ', 'NM', 'TX', 'OK')
    ->     UNION
    ->     SELECT 'NORTHEAST' AS REGION, COUNT(*) AS NUMBER_OF_REPAIRS
    ->     FROM parts_maintenance
    ->     WHERE UPPER(state) IN ('PA', 'NJ', 'NY', 'CT', 'RI', 'MA', 'VT', 'ME', 'NH')
    ->     UNION
    ->     SELECT 'SOUTHEAST' AS REGION, COUNT(*) AS NUMBER_OF_REPAIRS
    ->     FROM parts_maintenance
    ->     WHERE UPPER(state) IN ('AR', 'LA', 'MS', 'AL', 'GA', 'FL', 'KY', 'TN', 'SC', 'NC', 'VA', 'WV', 'DE', 'MD')
    ->     UNION
    ->     SELECT 'MIDWEST' AS REGION, COUNT(*) AS NUMBER_OF_REPAIRS
    ->     FROM parts_maintenance
    ->     WHERE UPPER(state) IN ('ND', 'SD', 'KS', 'NE', 'MN', 'WI', 'IA', 'MO', 'MI', 'IN', 'IL', 'OK')
    ->     UNION
    ->     SELECT 'WEST' AS REGION, COUNT(*) AS NUMBER_OF_REPAIRS
    ->     FROM parts_maintenance
    ->     WHERE UPPER(state) IN ('WA', 'ID', 'MT', 'OR', 'WY', 'CO', 'UT', 'NV', 'CA')
    ->     ORDER BY NUMBER_OF_REPAIRS DESC;
+-----------+-------------------+
| REGION    | NUMBER_OF_REPAIRS |
+-----------+-------------------+
| MIDWEST   |               258 |
| NORTHEAST |               208 |
| SOUTHEAST |               186 |
| WEST      |                66 |
| SOUTHWEST |                63 |
+-----------+-------------------+
5 rows in set (0.00 sec)
```

    ii. How might the fleet maintenance team use the information to update its maintenance schedule?
        1. **They may use this information to do more frequent service maintenance on gas tanks in the Midwest, and perform more frequent tire rotations. Also, they may need to look at weather and other variables that could be affecting the cars in the Midwest.**

c. Which parts are being replaced most due to corrosion or rust?
    i. **The parts being replaced most due to corrosion or rust are the Wheel Arch(55), Fender replacement(54), and Rocker Panel(53) and so on.**

```
mysql> SELECT repair AS PART_REPAIR, COUNT(*) AS NUMBER_OF_REPAIRS
    -> FROM parts_maintenance
    -> WHERE UPPER(reason) IN ('CORROSION', 'RUST')
    -> GROUP BY PART_REPAIR
    -> ORDER BY NUMBER_OF_REPAIRS DESC;
+-----------------------+-------------------+
| PART_REPAIR           | NUMBER_OF_REPAIRS |
+-----------------------+-------------------+
| Wheel Arch            |                55 |
| Fender replacement    |                54 |
| Rocker Panel          |                53 |
| Brake line replacement |               52 |
| Struts                |                51 |
| Cab corner panel      |                49 |
| Shocks                |                47 |
| Fule tank             |                46 |
+-----------------------+-------------------+
8 rows in set (0.00 sec)
```

d. Which parts are being replaced most because of mechanical failure or accident, like a flat tire or rock through the windshield?
    i. **The most common replaced are Tire repair(74), Tire replacement(66), and Windshield replacement(63).**

```
mysql> SELECT repair AS PART_REPAIR, COUNT(*) AS NUMBER_OF_REPAIRS
    -> FROM parts_maintenance
    -> WHERE UPPER(reason) LIKE '%FLAT%' OR UPPER(reason) like '%CRACK%'
    -> GROUP BY PART_REPAIR
    -> ORDER BY NUMBER_OF_REPAIRS DESC;
+-----------------------+-------------------+
| PART_REPAIR           | NUMBER_OF_REPAIRS |
+-----------------------+-------------------+
| Tire repair           |                74 |
| Tire replacement      |                66 |
| Windshield replacement |               63 |
+-----------------------+-------------------+
3 rows in set (0.00 sec)
```

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. **From my analysis, the most frequent repairs needed are the fuel tank and tire replacement/repair. It also appears that the part failures and replacements are most common in the Midwest region at 258 with the Northeast following closely at 208. We can also see the most common repairs due to corrosion or rust were the wheel arch and fender replacement.**

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. **To identify trends or themes I used queries such as a union to join together the information that I was acquiring from the different states so that the information could be compared. I also used the like statement to find a particular type that I was looking for.**
    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 benefits of using these queries were that they gave me the information that I was looking for in a quick manner and collected various information that I could compare. I could then take this to the stakeholders to give them an idea of how the trends are appearing.**

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

a. **The functions in the analysis tool helped me to organize the data by allowing me to use different select statements to gather information that I could compare and retrieve in a quick manner. With only one statement, I was able to collect information from all the different regions and gather it to compare.**