7) Are certain car colors more popular? For each car color calculate: the number of rides, the number of cars, and the average number of rides per car. Include all cars in this query. Optional: calculate the average distance per car of that color.

A: As the graph below shows, the average number of rides per car is the highest when there is no information on the car color. It might result from the truth that customers do not care about the colors of the car, so there are no certain car colors more popular.

```
40  SELECT Color, count(RequestID) AS rides,
41  count( DISTINCT requests.DriverName) AS car_numbers,
42  ( count(RequestID) / count( DISTINCT requests.DriverName) ) AS AverageNumOfRides,
43  ( SUM(Distance) / count( DISTINCT requests.DriverName) ) AS AverageDistance
44  FROM drivers JOIN requests
45  ON drivers.DriverName = requests.DriverName
46  GROUP BY Color;
47
48  #8
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Color	rides	car_numbers	AverageNumOfRides	AverageDistance
NULL	29	3	9.6667	77.3333
Black	12	2	6.0000	55.5000
Silver	10	2	5.0000	65.5000
White	13	2	6.5000	59.5000

8) For each customer find the total number of rides they had, both in the past and in the current week. Is there any relationship between the number of rides a customer had in the past, and the number of rides in the current week? Sort you results by the total number of rides, and return only the 12 customers with the fewest rides, in total.

A: The graph below shows the data of past trips and recent requests, and there are no significant relationships between past trips and recent requests.

```
48  #8
49  SELECT customers.CustomerName, PastTrips, count(RequestID), ( IF(PastTrips is NULL, 0, PastTrips) + count(RequestID)) AS total
50  FROM customers LEFT JOIN requests
51  ON customers.CustomerName = requests.CustomerName
52  GROUP BY customers.CustomerName
53  ORDER BY total LIMIT 12;
54
55  #9
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

CustomerName	PastTrips	count(RequestID)	total
Carleigh Garrett	NULL	0	0
Ayden Mendoza	1	0	1
Dominic Bryan	NULL	1	1
Jaslene Donaldson	1	0	1
Jose Hess	1	0	1
Jesse Mckee	1	2	3
Tyrell Humphrey	NULL	3	3
Gemma Chavez	1	3	4
Mva Nash	3	1	4

Result 36 | Result Grid | Form Editor | Read Only

9) Convert the previous question (Question #8) into a subquery to find the average total number of trips for each address. Remember that the address is the city the customer lives in. Sort results in increasing order of average number of trips.

```
55    #9
56 •  SELECT  Address, avg(total)
57    FROM
58    (SELECT customers.CustomerName, Address, PastTrips, count(RequestID),
59    ( IF(PastTrips is NULL, 0, PastTrips) + count(RequestID) ) AS total
60    FROM customers LEFT JOIN requests
61    ON customers.CustomerName = requests.CustomerName
62    GROUP BY customers.CustomerName ) AS Data
63    GROUP BY Address
64    ORDER BY avg(total);
65
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Address	avg(total)
Ballwin	0.5000
NULL	4.8333
Florissant	6.0000
St. Louis	7.1429
Clayton	8.0000
Chesterfield	11.0000

10) List the number of requests by time of day on each day. List only times with more than 5 requests.

```
66    #10
67 •  SELECT DayOfWeek, TimeOfDay, count(RequestID)
68    FROM requests
69    GROUP BY DayOfWeek, TimeOfDay
70    HAVING count(RequestID) > 5 ;
```

Result Grid | Filter Rows: | Export: | Wrap

DayOfWeek	TimeOfDay	count(RequestID)
Wednesday	evening	6
Friday	evening	10
Saturday	afternoon	8
Sunday	evening	9

11) What is the average age of travelers to each destination? Order the destinations from oldest travelers to youngest.

```
72    #11
73 •  SELECT Destination, AVG(Age)
74    FROM requests JOIN customers
75    ON requests.CustomerName = customers.CustomerName
76    GROUP BY Destination
77    ORDER BY AVG(Age) DESC ;
```

Result Grid | Filter Rows: | Export: | Wrap Cell C

Destination	AVG(Age)
WashU	37.6000
Arch	36.2500
Theater	34.5000
Stadium	34.1429
NULL	33.1250
Park	32.0000
Gardens	31.0000
Opera	30.6667
City Museum	29.6000

12) List destinations that have more than 4 ride requests. Include the destination and the number of requests. Sort the results based on decreasing order of the number of requests.

```
79    #12
80 •  SELECT Destination, count(RequestID)
81    FROM requests
82    GROUP BY Destination
83    ORDER BY count(RequestID) DESC ;
```

Result Grid | Filter Rows: | Export:

Destination	count(RequestID)
NULL	16
Stadium	7
WashU	5
City Museum	5
Grants Farm	5
Park	5
Zoo	5
Gardens	5
Arch	4

13) List the RequestID, CustomerName, Distance, and (any) two other attributes for trips that are longer than the average trip. Return only the 10 shortest trips.

```
85      #13
86  •   SELECT RequestID, CustomerName, Distance, Destination, DriverName
87      FROM requests
88      WHERE Distance >
89      ( SELECT AVG(Distance) FROM requests )
90      ORDER BY DISTANCE LIMIT 10;
```

Result Grid | Filter Rows: | Edit: | Export/Import:

RequestID	CustomerName	Distance	Destination	DriverName
3	Sidney Wheeler	13	City Museum	Jane
69	Saniyah Powell	14	Park	Barbara
33	Mariela Meyer	15	City Museum	Frank
54	Rylee King	15	Stadium	Frank
55	Tyrell Humphrey	17	Grants Farm	Barbara
62	Todd Vaughn	17	WashU	Michael
34	Mariana Schwartz	17	Stadium	James
60	Sidney Wheeler	17	Zoo	Tracey
24	Mariana Schwartz	18	Stadium	Allison

14) How much time did you spend on this homework?

1.5 hour

```
for i in len(array):
        for j in 2: i-1:
          if  i % j != 0:
                keep i
```