1. What are the different types of light conditions recorded in the dataset, and how many crashes occurred in each type?

```
SELECT light_condition_name, COUNT(*) AS crash_count
FROM `bigquery-public-data.nhtsa_traffic_fatalities. accident_2020`
GROUP BY light_condition_name;
```

JOB INFORMATION | RESULTS | CHART | PREVIEW | JSON | EXECUTION DETAILS | EXECUTION GRAPH

Row	light_condition_name	crash_count
1	Dark - Not Lighted	9695
2	Daylight	16236
3	Reported as Unknown	126
4	Dark - Unknown Lighting	335
5	Other	17
6	Dark - Lighted	7373
7	Dusk	951
8	Dawn	645
9	Not Reported	73

2. How many crashes involved atmospheric conditions code 'X' in both atmospheric_conditions_1 and atmospheric_conditions_2?

```
SELECT COUNT(*) AS crash_count
FROM `bigquery-public-data.nhtsa_traffic_fatalities. accident_2020`
WHERE CAST(atmospheric_conditions_1 AS STRING) = 'X' AND CAST(atmospheric_conditions_2 AS
STRING) = 'X';
```

JOB INFORMATION | RESULTS | CHART | PREVIEW | JSON | EXECUTION DETAILS | EXECUTION GRAPH

Row	crash_count
1	0

3. What is the average number of fatalities in crashes where emergency medical service arrived at the scene, and how does it vary by light condition?

```
SELECT light_condition_name, AVG(number_of_fatalities) AS avg_fatalities
FROM `bigquery-public-data.nhtsa_traffic_fatalities. accident_2020`
WHERE hour_of_arrival_at_scene IS NOT NULL
GROUP BY light_condition_name;
```

JOB INFORMATION | RESULTS | CHART | PREVIEW | JSON | EXECUTION DETAILS | EXECUTION GRAPH

Row	light_condition_name	avg_fatalities
1	Dark - Not Lighted	1.092728210417...
2	Daylight	1.087459965508...
3	Reported as Unknown	1.055555555555...
4	Dark - Unknown Lighting	1.059701492537...
5	Other	1.0
6	Dark - Lighted	1.075681540756...
7	Dusk	1.074658254468...
8	Dawn	1.088372093023...
9	Not Reported	1.109589041095...

4. How many crashes occurred in or near a rail grade crossing, and what are the corresponding atmospheric conditions for those crashes?

```
SELECT rail_grade_crossing_identifier_name, atmospheric_conditions_1_name,
atmospheric_conditions_2_name, COUNT(*) AS crash_count
FROM `bigquery-public-data.nhtsa_traffic_fatalities. accident_2020`
WHERE rail_grade_crossing_identifier IS NOT NULL
GROUP BY rail_grade_crossing_identifier_name, atmospheric_conditions_1_name,
atmospheric_conditions_2_name LIMIT 10;
```

JOB INFORMATION | RESULTS | CHART | PREVIEW | JSON | EXECUTION DETAILS | EXECUTION GRAPH

Row	rail_grade_crossing_identifier_nam	atmospheric_conditions_1_name	atmospheric_conditions_2_name	crash_count
1	Not Applicable	Clear	No	24681
2	Not Applicable	Blowing Sand, Soil, Dirt	No	5
3	Not Applicable	Not Reported	No	2438
4	Not Applicable	Rain	No	2602
5	Not Applicable	Cloudy	No	4574
6	Not Applicable	Reported as Unknown	No	204
7	Not Applicable	Snow	No	278
8	Not Applicable	Clear	Yes	35
9	Not Applicable	Other	No	20
10	Not Applicable	Fog, Smog, Smoke	No	360

5. What is the overall count of crashes where the number of drunk drivers involved is greater than 0?

```
SELECT COUNT(*) AS crash_count
FROM `bigquery-public-data.nhtsa_traffic_fatalities. accident_2020`
WHERE number_of_drunk_drivers > 0;
```

JOB INFORMATION | RESULTS | CHART | PREVIEW | JSON | EXECUTION DETAILS | EXECUTION GRAPH

Row	crash_count
1	9141

6. How many crashes occurred in each hour of the day, considering both the hour_of_notification and hour_of_arrival_at_scene variables?

```
SELECT hour_of_notification, COUNT(*) AS notification_count
FROM `bigquery-public-data.nhtsa_traffic_fatalities. accident_2020`
GROUP BY hour_of_notification
UNION ALL
SELECT hour_of_arrival_at_scene, COUNT(*) AS arrival_count
FROM `bigquery-public-data.nhtsa_traffic_fatalities. accident_2020`
GROUP BY hour_of_arrival_at_scene LIMIT 10;
```

JOB INFORMATION | RESULTS | CHART | PREVIEW | JSON | EXECUTION DETAILS | EXECUTION GRAPH

Row	hour_of_notification	notification_count
1	99	19366
2	9	424
3	0	579
4	17	930
5	12	632
6	15	874
7	2	433
8	8	420
9	6	551
10	19	906

7. What is the earliest and latest timestamp of crashes recorded in the dataset?

```
SELECT MIN(timestamp_of_crash) AS earliest_timestamp, MAX(timestamp_of_crash) AS
latest_timestamp
FROM `bigquery-public-data.nhtsa_traffic_fatalities. accident_2020`
```

JOB INFORMATION | RESULTS | CHART | PREVIEW | JSON | EXECUTION DETAILS | EXECUTION GRAPH

Row	earliest_timestamp	latest_timestamp
1	2020-01-01 00:10:00 UTC	2020-12-31 23:51:00 UTC

8. Retrieve the state number and state name from the accident_2019 table for the state 'Alabama' and the state name along with the number of vehicle forms submitted from the accident_2020 table for the state 'New Jersey'. Join these tables based on the number of vehicle forms submitted. Display only the first 10 records.

```
SELECT a.state_number,a.state_name, b.state_name,b.number_of_vehicle_forms_submitted_all
FROM `bigquery-public-data.nhtsa_traffic_fatalities. accident_2019` a
JOIN `bigquery-public-data.nhtsa_traffic_fatalities. accident_2020` b
ON a.number_of_vehicle_forms_submitted_all = b.number_of_vehicle_forms_submitted_all
WHERE a.state_name = 'Alabama' AND b.state_name = 'New Jersey'

LIMIT 10;
```

JOB INFORMATION | RESULTS | CHART | PREVIEW | JSON | EXECUTION DETAILS | EXECUTION GRAPH

Row	state_number	state_name	state_name_1	number_of_vehicle_f
1	1	Alabama	New Jersey	1
2	1	Alabama	New Jersey	1
3	1	Alabama	New Jersey	1
4	1	Alabama	New Jersey	1
5	1	Alabama	New Jersey	1
6	1	Alabama	New Jersey	1
7	1	Alabama	New Jersey	1
8	1	Alabama	New Jersey	1
9	1	Alabama	New Jersey	1
10	1	Alabama	New Jersey	1

9. Retrieve the number of vehicle forms submitted for the state of Alabama in both 2019 and 2020.

```
SELECT a.state_number, a.state_name, a.number_of_vehicle_forms_submitted_all AS forms_2019,
       b.number_of_vehicle_forms_submitted_all AS forms_2020
FROM `bigquery-public-data.nhtsa_traffic_fatalities. accident_2019` a
JOIN `bigquery-public-data.nhtsa_traffic_fatalities. accident_2020` b
ON a.state_number = b.state_number
WHERE a.state_name = 'Alabama'
LIMIT 10;
```

JOB INFORMATION | RESULTS | CHART | PREVIEW | JSON | EXECUTION DETAILS | EXECUTION GRAPH

Row	state_number	state_name	forms_2019	forms_2020
1	1	Alabama	1	1
2	1	Alabama	1	1
3	1	Alabama	1	1
4	1	Alabama	1	1
5	1	Alabama	1	1
6	1	Alabama	1	1
7	1	Alabama	1	1
8	1	Alabama	1	1
9	1	Alabama	1	1
10	1	Alabama	1	1

10. Show the crash data for August in 2019 and 2020, including state number, state name, month, and year. Use a join between the accident_2019 and accident_2020 tables, and limit the results to the first 10 records

```
SELECT a.state_number, a.state_name,
  a.month_of_crash AS month_of_crash_2019,
  a.year_of_crash AS year_of_crash_2019,
  b.month_of_crash AS month_of_crash_2020,
  b.year_of_crash AS year_of_crash_2020
FROM `bigquery-public-data.nhtsa_traffic_fatalities. accident_2019` a
JOIN `bigquery-public-data.nhtsa_traffic_fatalities. accident_2020` b
ON a.state_number = b.state_number AND a.day_of_crash = b.day_of_crash
WHERE a.month_of_crash_name = 'August' AND b.month_of_crash_name = 'August'
LIMIT 10;
```

JOB INFORMATION | RESULTS | CHART PREVIEW | JSON | EXECUTION DETAILS | EXECUTION GRAPH

Row	state_number	state_name	month_of_crash_201	year_of_crash_2019	month_of_crash_202	year_of_crash_2020
1	1	Alabama	8	2019	8	2020
2	1	Alabama	8	2019	8	2020
3	1	Alabama	8	2019	8	2020
4	4	Arizona	8	2019	8	2020
5	4	Arizona	8	2019	8	2020
6	6	California	8	2019	8	2020
7	6	California	8	2019	8	2020
8	6	California	8	2019	8	2020
9	6	California	8	2019	8	2020
10	6	California	8	2019	8	2020