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SQL Code for BigQuery Public Datasets
NYC Citi Bike Stations and NYC Citi Bike Trips

1. *What are the top 5 most popular trips (start and end stations combination) for all time?*

```
SELECT start_station_name, end_station_name,
  IF(start_station_name = end_station_name, TRUE, FALSE) same_station,
  AVG(tripduration) AS avg_duration,
  COUNT(*) AS total_rides
FROM
  `bigquery-public-data.new_york_citibike.citibike_trips`
WHERE
   start_station_id != end_station_id
GROUP BY
  start_station_name,
  end_station_name,
  same_station
ORDER BY
  total_rides DESC
LIMIT 5;
```

2. *Which hours of the day does usage peak on weekdays?*

```
SELECT
 hour,
 MAX(number_trips) AS maximum_trips
FROM (
 SELECT
   EXTRACT(HOUR
   FROM
     CAST(starttime AS TIME)) AS hour,
   EXTRACT (DAYOFWEEK
   FROM
     starttime) AS day_week,
   COUNT(*) AS number_trips
 FROM
```

```
  `bigquery-public-data.new_york_citibike.citibike_trips`
 GROUP BY
  1,
  2)
WHERE
 day_week !=7
 OR day_week !=1
GROUP BY
 1
ORDER BY
 2 DESC;
```

3. *Which hours of the day does usage peak on weekends?*

```
SELECT
 hour,
 MAX(number_trips) AS maximum_trips
FROM (
 SELECT
  EXTRACT (HOUR
  FROM
   CAST(starttime AS TIME)) AS hour,
  EXTRACT (DAYOFWEEK
  FROM
   starttime) AS weekend,
  COUNT(*) AS number_trips
 FROM
  `bigquery-public-data.new_york_citibike.citibike_trips`
 GROUP BY
  1,
  2)
 WHERE
  weekend != 6
  AND weekend != 5
```

```
  AND weekend != 4
  AND weekend != 3
  AND weekend != 2
GROUP BY
  1
ORDER BY
  2 DESC;
```

4. ***From April 2017 to September 2018, which generation was the first to ride bicycles?***

```
SELECT
EXTRACT(year
FROM
  starttime) AS year,
COUNT(CASE
    WHEN birth_year>= 1940 AND birth_year < 1959 THEN 1 END) AS Boomer,
COUNT(CASE
    WHEN birth_year>= 1960 AND birth_year < 1979 THEN 1 END) AS Gen_X,
COUNT(CASE
    WHEN birth_year>= 1980 AND birth_year < 1996 THEN 1 END) AS Gen_Y,
COUNT(CASE
    WHEN birth_year>= 1997 AND birth_year < 2012 THEN 1 END) AS Gen_Z
FROM
`bigquery-public-data.new_york_citibike.citibike_trips`
GROUP BY
year
HAVING
year is NOT NULL
ORDER BY
year DESC;
```