

**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;
```