MY SQL

Q1. Query all columns for all American cities in the CITY table with populations larger than 100000.

The CountryCode for America is USA.

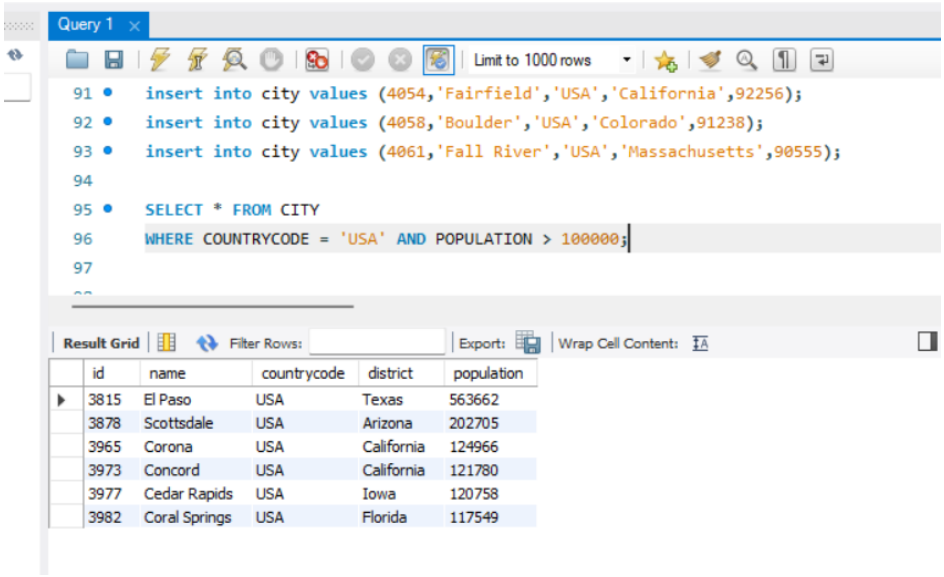
The CITY table is described as follows:

CITY

Field	Type
ID	NUMBER
NAME	VARCHAR2(17)
COUNTRYCODE	VARCHAR2(3)
DISTRICT	VARCHAR2(20)
POPULATION	NUMBER

Answer: SELECT * FROM CITY

WHERE COUNTRYCODE = 'USA' AND POPULATION > 100000;



Q2. Query the NAME field for all American cities in the CITY table with populations larger than 120000. The CountryCode for America is USA.

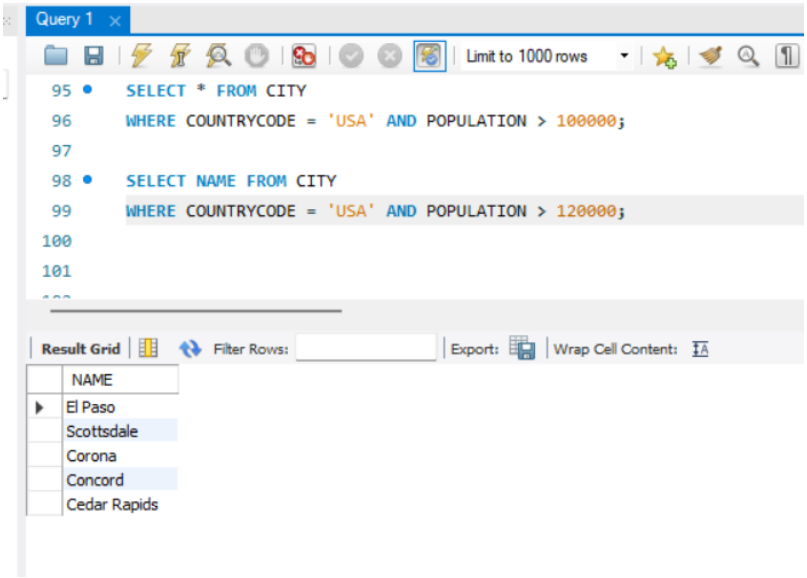
The CITY table is described as follows:

CITY

Field	Type
ID	NUMBER
NAME	VARCHAR2(17)
COUNTRYCODE	VARCHAR2(3)
DISTRICT	VARCHAR2(20)
POPULATION	NUMBER

Answer: SELECT NAME FROM CITY

WHERE COUNTRYCODE = 'USA' AND POPULATION > 120000;

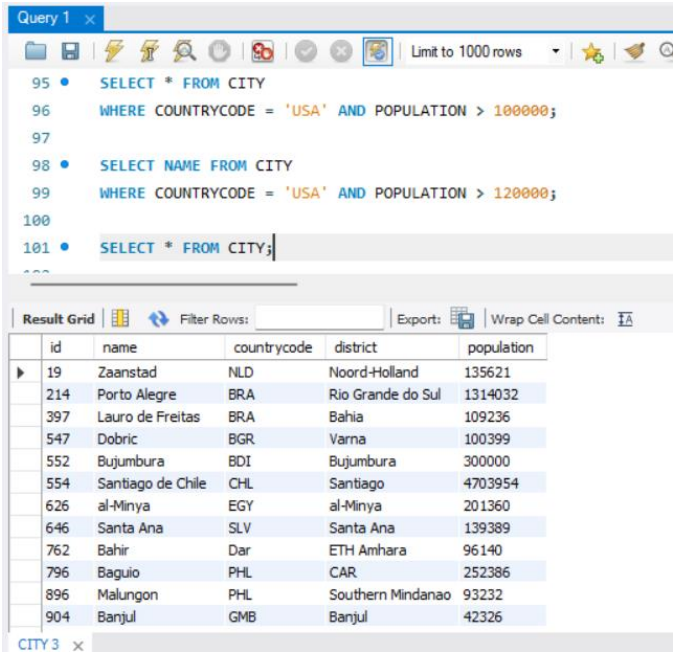


Q3. Query all columns (attributes) for every row in the CITY table. The CITY table is described as follows:

CITY

Field	Type
ID	NUMBER
NAME	VARCHAR2(17)
COUNTRYCODE	VARCHAR2(3)
DISTRICT	VARCHAR2(20)
POPULATION	NUMBER

Answer: SELECT * FROM CITY;

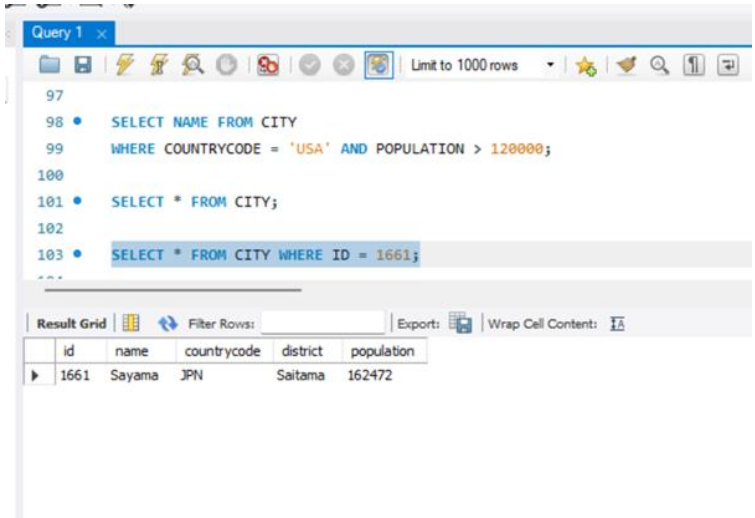


Q4. Query all columns for a city in CITY with the ID 1661. The CITY table is described as follows:

CITY

Field	Type
ID	NUMBER
NAME	VARCHAR2(17)
COUNTRYCODE	VARCHAR2(3)
DISTRICT	VARCHAR2(20)
POPULATION	NUMBER

Answer: SELECT * FROM CITY WHERE ID = 1661;



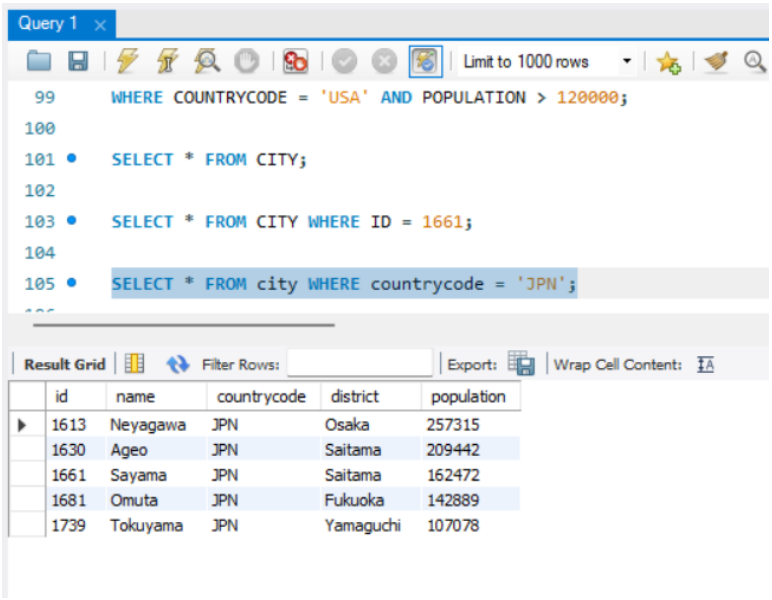
Q5. Query all attributes of every Japanese city in the CITY table. The COUNTRYCODE for Japan is JPN.

The CITY table is described as follows:

CITY

Field	Type
ID	NUMBER
NAME	VARCHAR2(17)
COUNTRYCODE	VARCHAR2(3)
DISTRICT	VARCHAR2(20)
POPULATION	NUMBER

Answer: SELECT * FROM city WHERE countrycode = 'JPN';



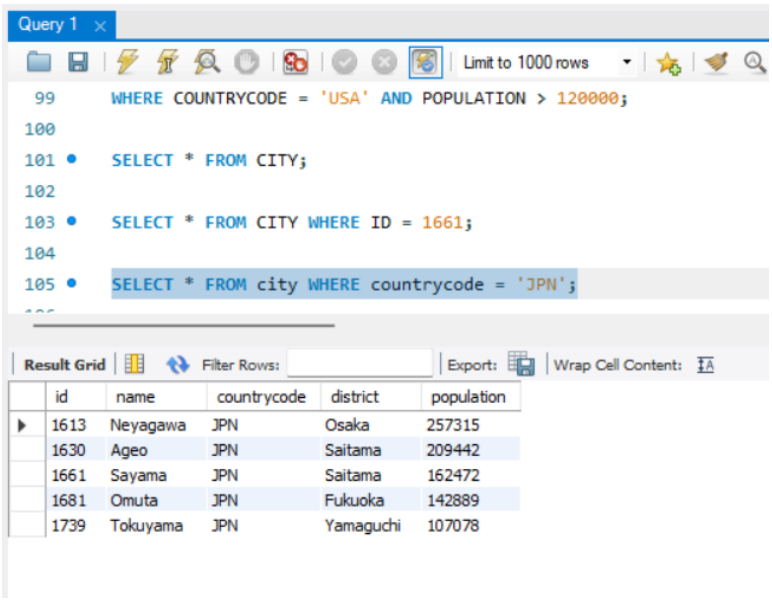
Q6. Query the names of all the Japanese cities in the CITY table. The COUNTRYCODE for Japan is JPN.

The CITY table is described as follows:

CITY

Field	Type
ID	NUMBER
NAME	VARCHAR2(17)
COUNTRYCODE	VARCHAR2(3)
DISTRICT	VARCHAR2(20)
POPULATION	NUMBER

Answer: SELECT * FROM city WHERE countrycode = 'JPN';



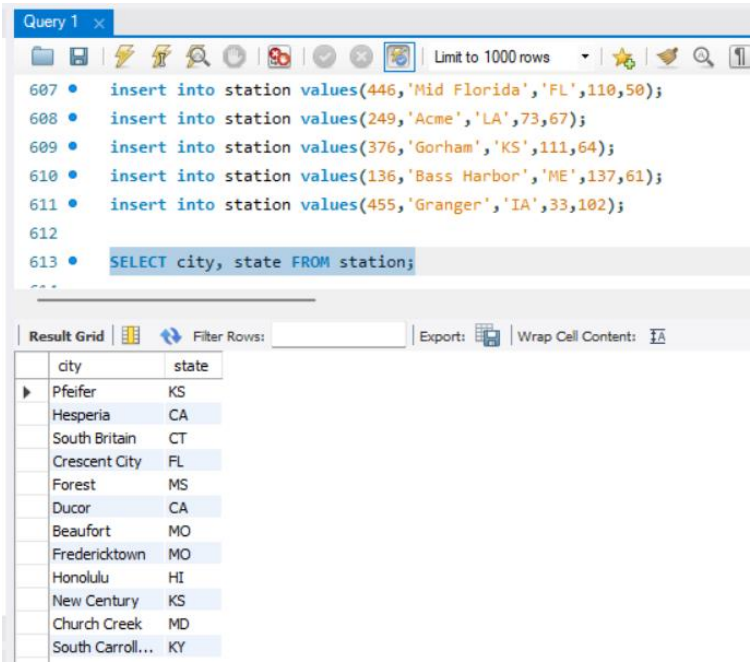
Q7. Query a list of CITY and STATE from the STATION table. The STATION table is described as follows:

STATION

Field	Type
ID	NUMBER
CITY	VARCHAR2(21)
STATE	VARCHAR2(2)
LAT_N	NUMBER
LONG_W	NUMBER

where LAT_N is the northern latitude and LONG_W is the western longitude.

Answer: SELECT city, state FROM station;



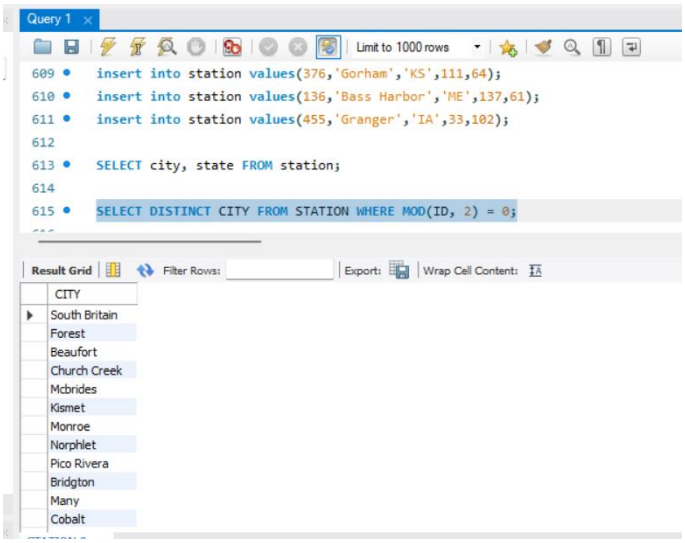
Q8. Query a list of CITY names from STATION for cities that have an even ID number. Print the results in any order, but exclude duplicates from the answer. The STATION table is described as follows:

STATION

Field	Type
ID	NUMBER
CITY	VARCHAR2(21)
STATE	VARCHAR2(2)
LAT_N	NUMBER
LONG_W	NUMBER

where LAT_N is the northern latitude and LONG_W is the western longitude

Answer: SELECT DISTINCT CITY FROM STATION WHERE MOD(ID, 2) = 0;



Q9. Find the difference between the total number of CITY entries in the table and the number of distinct CITY entries in the table.

The STATION table is described as follows:

STATION

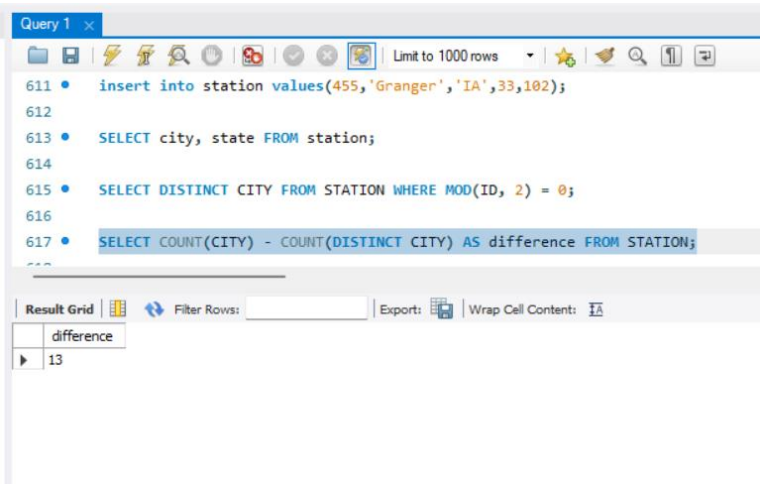
Field	Type
ID	NUMBER
CITY	VARCHAR2(21)
STATE	VARCHAR2(2)
LAT_N	NUMBER
LONG_W	NUMBER

where LAT_N is the northern latitude and LONG_W is the western longitude.

For example, if there are three records in the table with CITY values 'New York', 'New York', 'Bengalaru', there are 2 different city names: 'New York' and 'Bengalaru'. The query returns , because total number of records - number of unique city names = 3-2 =1

Answer:

SELECT COUNT(CITY) - COUNT(DISTINCT CITY) AS difference FROM STATION;



Q10. Query the two cities in STATION with the shortest and longest CITY names, as well as their respective lengths (i.e.: number of characters in the name). If there is more than one smallest or largest city, choose the one that comes first when ordered alphabetically. The STATION table is described as follows:

STATION

Field	Type
ID	NUMBER
CITY	VARCHAR2(21)
STATE	VARCHAR2(2)
LAT_N	NUMBER
LONG_W	NUMBER

where LAT_N is the northern latitude and LONG_W is the western longitude.

Sample Input

For example, CITY has four entries: DEF, ABC, PQRS and WXY.

Sample Output

ABC 3

PQRS 4

Hint -

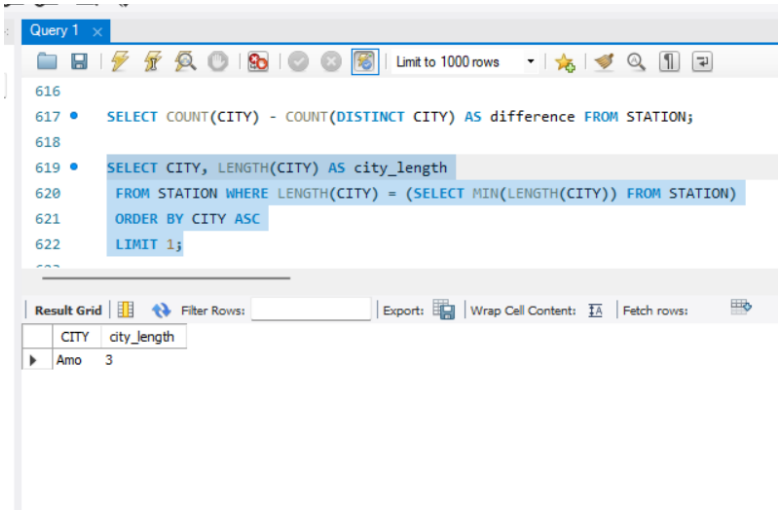
When ordered alphabetically, the CITY names are listed as ABC, DEF, PQRS, and WXY, with lengths and. The longest name is PQRS, but there are options for shortest named city. Choose ABC, because it comes first alphabetically.

Note:

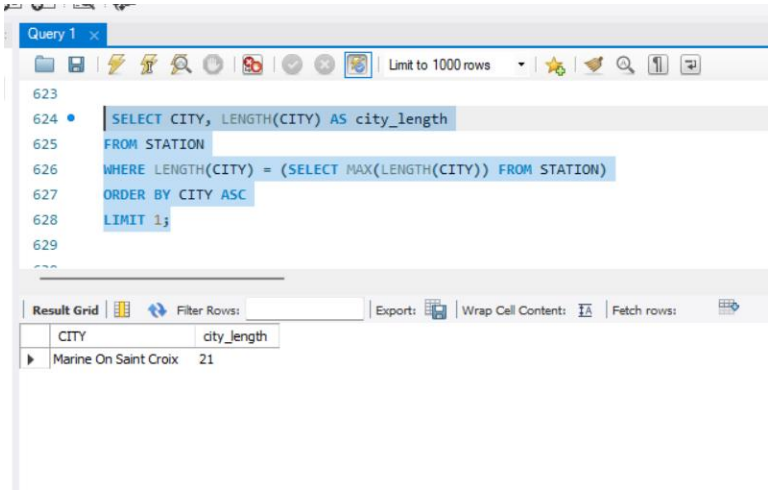
You can write two separate queries to get the desired output. It need not be a single query.

Answer:

```
SELECT CITY, LENGTH(CITY) AS city_length
 FROM STATION WHERE LENGTH(CITY) = (SELECT MIN(LENGTH(CITY)) FROM STATION)
 ORDER BY CITY ASC
 LIMIT 1;
```




```
SELECT CITY, LENGTH(CITY) AS city_length
FROM STATION
WHERE LENGTH(CITY) = (SELECT MAX(LENGTH(CITY)) FROM STATION)
ORDER BY CITY ASC
LIMIT 1;
```



Q11. Query the list of CITY names starting with vowels (i.e., a, e, i, o, or u) from STATION. Your result cannot contain duplicates.

Input Format

The STATION table is described as follows:

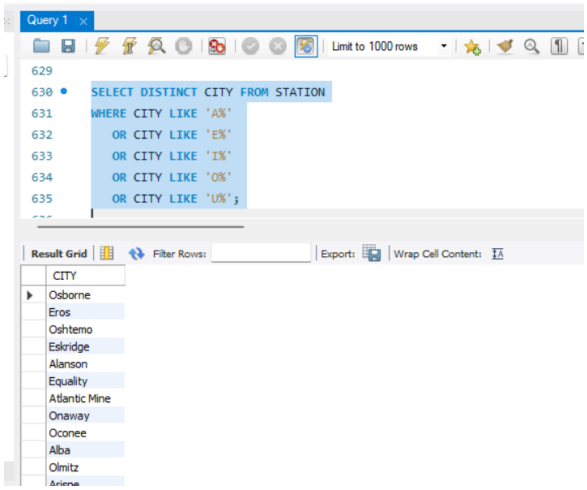
STATION

Field	Type
ID	NUMBER
CITY	VARCHAR2(21)
STATE	VARCHAR2(2)
LAT_N	NUMBER
LONG_W	NUMBER

where LAT_N is the northern latitude and LONG_W is the western longitude.

Answer:

```
SELECT DISTINCT CITY FROM STATION
WHERE CITY LIKE 'A%'
   OR CITY LIKE 'E%'
   OR CITY LIKE 'I%'
   OR CITY LIKE 'O%'
   OR CITY LIKE 'U%';
```



Q12. Query the list of CITY names ending with vowels (a, e, i, o, u) from STATION. Your result cannot contain duplicates.

Input Format

The STATION table is described as follows:

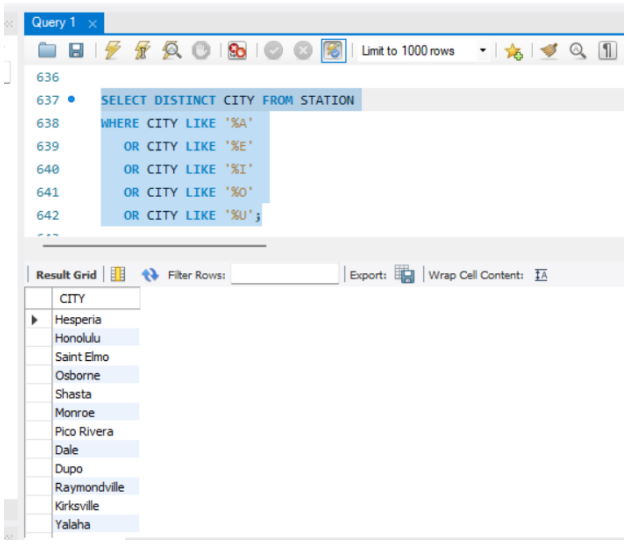
STATION

Field	Type
ID	NUMBER
CITY	VARCHAR2(21)
STATE	VARCHAR2(2)
LAT_N	NUMBER
LONG_W	NUMBER

where LAT_N is the northern latitude and LONG_W is the western longitude.

Answer:

```
SELECT DISTINCT CITY FROM STATION
WHERE CITY LIKE '%A'
   OR CITY LIKE '%E'
   OR CITY LIKE '%I'
   OR CITY LIKE '%O'
   OR CITY LIKE '%U';
```



Q13. Query the list of CITY names from STATION that do not start with vowels. Your result cannot contain duplicates.

Input Format

The STATION table is described as follows:

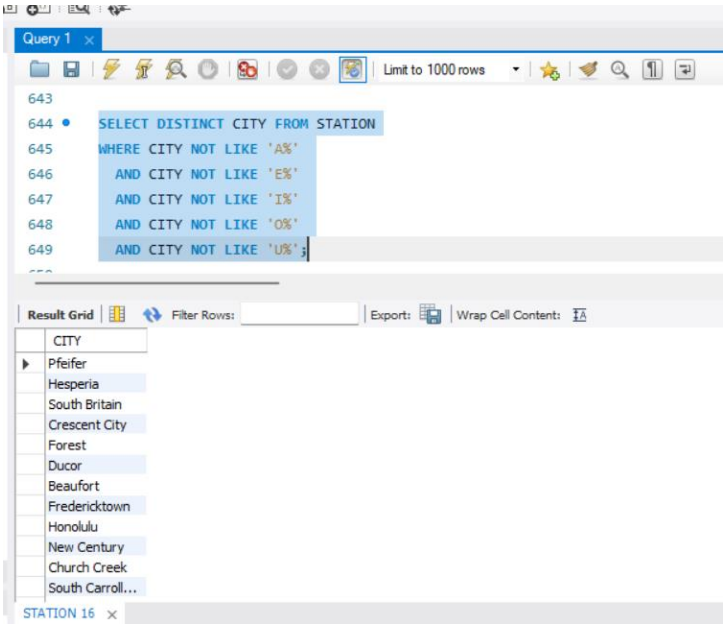
STATION

Field	Type
ID	NUMBER
CITY	VARCHAR2(21)
STATE	VARCHAR2(2)
LAT_N	NUMBER
LONG_W	NUMBER

where LAT_N is the northern latitude and LONG_W is the western longitude.

Answer:

```
SELECT DISTINCT CITY FROM STATION
WHERE CITY NOT LIKE 'A%'
  AND CITY NOT LIKE 'E%'
  AND CITY NOT LIKE 'I%'
  AND CITY NOT LIKE 'O%'
  AND CITY NOT LIKE 'U%';
```



Q14. Query the list of CITY names from STATION that do not end with vowels. Your result cannot contain duplicates.

Input Format

The STATION table is described as follows:

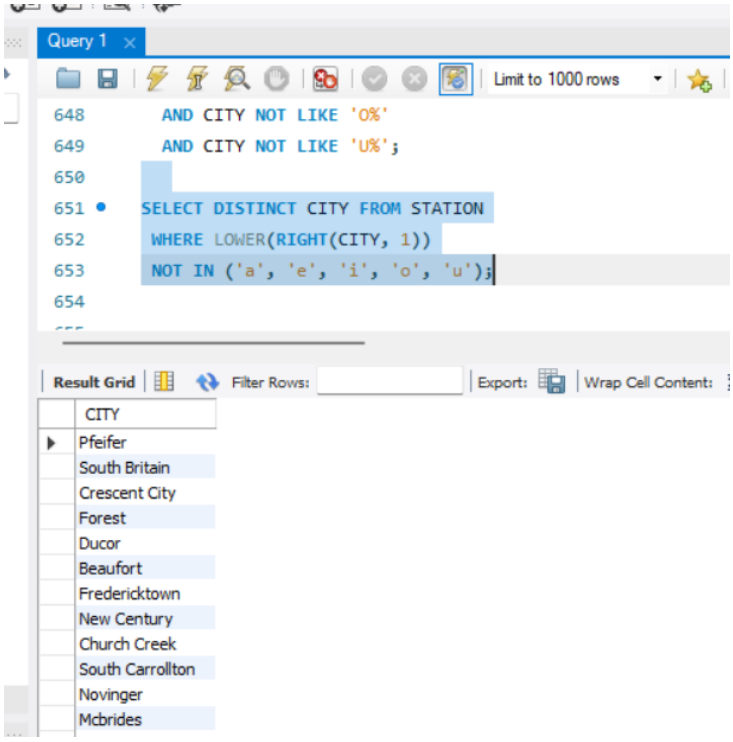
STATION

Field	Type
ID	NUMBER
CITY	VARCHAR2(21)
STATE	VARCHAR2(2)
LAT_N	NUMBER
LONG_W	NUMBER

where LAT_N is the northern latitude and LONG_W is the western longitude.

Answer:

```
SELECT DISTINCT CITY
FROM STATION
WHERE LOWER(RIGHT(CITY, 1)) NOT IN ('a', 'e', 'i', 'o', 'u');
```



Q15. Query the list of CITY names from STATION that either do not start with vowels or do not end with vowels. Your result cannot contain duplicates.

Input Format

The STATION table is described as follows:

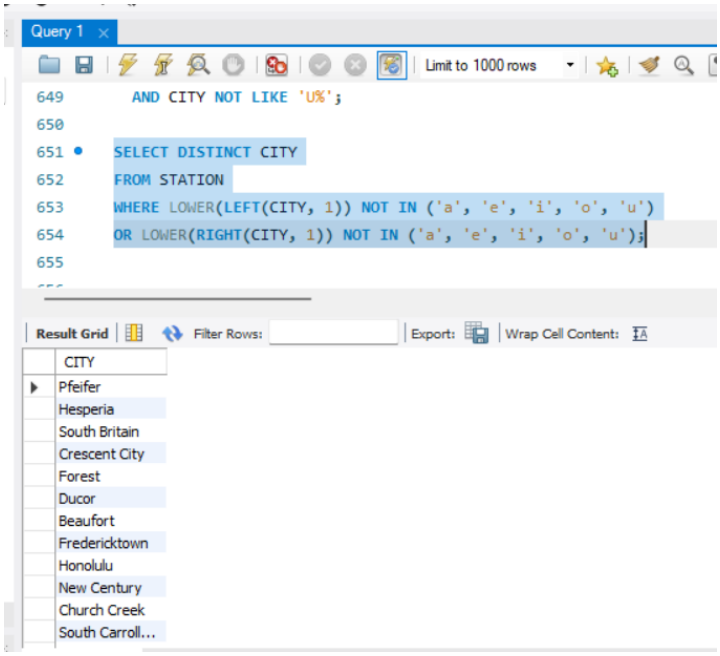
STATION

Field	Type
ID	NUMBER
CITY	VARCHAR2(21)
STATE	VARCHAR2(2)
LAT_N	NUMBER
LONG_W	NUMBER

where LAT_N is the northern latitude and LONG_W is the western longitude.

Answer:

```
SELECT DISTINCT CITY
FROM STATION
WHERE LOWER(LEFT(CITY, 1)) NOT IN ('a', 'e', 'i', 'o', 'u')
  OR LOWER(RIGHT(CITY, 1)) NOT IN ('a', 'e', 'i', 'o', 'u');
```



Q16. Query the list of CITY names from STATION that do not start with vowels and do not end with vowels. Your result cannot contain duplicates.

Input Format

The STATION table is described as follows:

STATION

Field	Type
ID	NUMBER
CITY	VARCHAR2(21)
STATE	VARCHAR2(2)
LAT_N	NUMBER
LONG_W	NUMBER

where LAT_N is the northern latitude and LONG_W is the western longitude.

Answer:

```
SELECT DISTINCT CITY
FROM STATION
WHERE LOWER(LEFT(CITY, 1)) NOT IN ('a', 'e', 'i', 'o', 'u')
  AND LOWER(RIGHT(CITY, 1)) NOT IN ('a', 'e', 'i', 'o', 'u');
```