1. select all employees in department 10 whose salary is greater than 3000. [table: employee]

mysql> SELECT \* FROM employee WHERE deptno =10 AND salary >3000;

+-------+--------+---------+--------+----------+

| empid | fname | lname | deptno | salary |

+-------+--------+---------+--------+----------+

| 800 | George | Clooney | 10 | 10000.00 |

+-------+--------+---------+--------+----------+

1 row in set (0.16 sec)

2. The grading of students based on the marks they have obtained is done as follows

40 to 50 -> Second Class

50 to 60 -> First Class

60 to 80 -> First Class

80 to 100 -> Distinctions

mysql> ALTER TABLE STUDENTS ADD GRADING VARCHAR(100);

Query OK, 0 rows affected (1.19 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> UPDATE STUDENTS

-> SET GRADING = 'SECOND CLASS' WHERE MARKS >=40 AND MARKS <=50;

Query OK, 0 rows affected (0.03 sec)

Rows matched: 0 Changed: 0 Warnings: 0

mysql> UPDATE STUDENTS

-> SET GRADING = 'FIRST CLASS' WHERE MARKS >=50 AND MARKS <=80;

Query OK, 13 rows affected (0.16 sec)

Rows matched: 13 Changed: 13 Warnings: 0

mysql> UPDATE STUDENTS

-> SET GRADING = 'DISTINCTION' WHERE MARKS >=80 AND MARKS <=100;

Query OK, 11 rows affected (0.28 sec)

Rows matched: 11 Changed: 11 Warnings: 0

1. How many students have graduated with first class?

mysql> SELECT COUNT(GRADING) AS FIRST\_CLASS FROM STUDENTS WHERE GRADING = 'FIRST CLASS';

+-------------+

| FIRST\_CLASS |

+-------------+

| 12 |

+-------------+

1 row in set (0.14 sec)

1. How many students have obtained distinction? [table: students]

mysql> SELECT COUNT(GRADING) AS DISTINCTION FROM STUDENTS WHERE GRADING = 'DISTINCTION' ;

+-------------+

| DISTINCTION |

+-------------+

| 11 |

+-------------+

1 row in set (0.00 sec)

3. Get a list of city names from station with even ID numbers only. Exclude duplicates from your answer.[table: station]

mysql> SELECT DISTINCT CITY,ID FROM STATION WHERE ID %2 = 0;

4. Find the difference between the total number of city entries in the table and the number of distinct city entries in the table. In other words, if N is the number of city entries in station, and N1 is the number of distinct city names in station, write a query to find the value of N-N1 from station.[table: station]

mysql> SELECT (SELECT COUNT(CITY) AS TOTAL\_CITIES FROM STATION)-(SELECT COUNT(DISTINCT CITY) AS DISTINCT\_CITY FROM STATION) AS DIFFERENCE;

+------------+

| DIFFERENCE |

+------------+

| 30 |

+------------+

1 row in set (0.11 sec)

5 a. Query the list of CITY names starting with vowels (i.e., a, e, i, o, or u) from STATION. Your result cannot contain duplicates. [Hint: Use RIGHT() / LEFT() methods ]

mysql> SELECT DISTINCT city FROM station WHERE LEFT (city,1) IN ('A','E','I','O','U');

+---------------+

| city |

+---------------+

| Arlington |

| Albany |

| Upperco |

| Aguanga |

| Odin |

| East |

| Algonac |

| Onaway |

| Irvington |

| Arrowsmith |

| Udall |

| Oakfield |

| Elkton |

| Amo |

| Alanson |

| Eleele |

| Auburn |

| Oconee |

| Amazonia |

| Aliso |

| Andersonville |

| Eros |

| Arkadelphia |

| Eriline |

| Edgewater |

| Eastlake |

| Addison |

| Everton |

| Eustis |

| Arispe |

| Union |

| Ottertail |

| Ermine |

| Albion |

| Athens |

| Eufaula |

| Osage City |

| Andover |

| Osborne |

| Elm |

| Atlantic |

| Oshtemo |

| Archie |

| Olmitz |

| Allerton |

| Equality |

| Alpine |

| Ojai |

| Orange |

| Urbana |

| Ukiah |

| Alba |

| Esmond |

| Eureka |

| Eskridge |

| Ozona |

| Effingham |

| Alton |

| Agency |

| Anthony |

| Emmett |

| Acme |

+---------------+

62 rows in set (0.10 sec)

b.Query the list of CITY names from STATION which have vowels (i.e., a, e, i, o, and u) as both their first and last characters. Your result cannot contain duplicates.

mysql> SELECT DISTINCT city FROM station WHERE LEFT (city,1) IN ('A','E','I','O','U') AND RIGHT (city,1) IN ('a','e','i','o','u');

+---------------+

| city |

+---------------+

| Upperco |

| Aguanga |

| Amo |

| Eleele |

| Oconee |

| Amazonia |

| Aliso |

| Andersonville |

| Arkadelphia |

| Eriline |

| Eastlake |

| Arispe |

| Ermine |

| Eufaula |

| Osborne |

| Oshtemo |

| Archie |

| Alpine |

| Ojai |

| Orange |

| Urbana |

| Alba |

| Eureka |

| Eskridge |

| Ozona |

| Acme |

+---------------+

26 rows in set (0.01 sec)

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

mysql> SELECT DISTINCT city FROM station WHERE NOT LEFT (city,1) IN ('A','E','I','O','U');

d. 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. [table: station]

mysql> SELECT DISTINCT city FROM station WHERE NOT LEFT (city,1) IN ('A','E','I','O','U') AND NOT RIGHT (city,1) IN ('a','e','i','o','u');

7. Write a query that prints a list of employee names having a salary greater than $2000 per month who have been employed for less than 10 months. Sort your result by ascending emp\_id. [table: emp]

mysql> SELECT FIRST\_NAME, SALARY FROM EMP WHERE SALARY > 2000 ORDER BY SALARY;

8. 12. How much money does the company spend every month on salaries for each department? [table: emp]

Expected Result:

+-------------+--------+

| sum(salary) | deptno |

+-------------+--------+

| 30700.00 | 10 |

| 13600.00 | 20 |

| 2600.00 | 30 |

+-------------+--------+

mysql> SELECT deptno, SUM(salary) AS SUM\_SALARY FROM EMP GROUP BY deptno ORDER BY deptno;

+--------+------------+

| deptno | SUM\_SALARY |

+--------+------------+

| NULL | 6056.50 |

| 30 | 7050.00 |

| 40 | 33851.00 |

| 50 | 468349.00 |

+--------+------------+

4 rows in set (0.07 sec)

9. How many cities in the CITY table have a Population larger than 100000. [table: city]

mysql> SELECT NAME , POPULATION FROM CITY WHERE POPULATION > 100000;

+---------------+------------+

| NAME | POPULATION |

+---------------+------------+

| Rotterdam | 593321 |

| Scottsdale | 202705 |

| Corona | 124966 |

| Concord | 121780 |

| Cedar Rapids | 120758 |

| Coral Springs | 117549 |

| Neyagawa | 257315 |

| Ageo | 209442 |

| Sayama | 162472 |

| Omuta | 142889 |

| Tokuyama | 107078 |

+---------------+------------+

11 rows in set (0.06 sec)

10. What is the total population of California? [table: city]

mysql> SELECT SUM(POPULATION) AS CALIFORNIA\_POPULATION FROM CITY WHERE DISTRICT = 'CALIFORNIA';

+-----------------------+

| CALIFORNIA\_POPULATION |

+-----------------------+

| 339002 |

+-----------------------+

1 row in set (0.05 sec)

11. What is the average population of the districts in each country? [table: city]

Expected Result:

+-------------+-----------------+

| countrycode | avg(population) |

+-------------+-----------------+

| JPN | 175839.2000 |

| NLD | 593321.0000 |

| USA | 120225.8750 |

+-------------+-----------------+

mysql> SELECT COUNTRYCODE, avg(POPULATION) AS POPULATION FROM CITY GROUP BY COUNTRYCODE;

+-------------+-------------+

| COUNTRYCODE | POPULATION |

+-------------+-------------+

| NLD | 593321.0000 |

| USA | 120225.8750 |

| JPN | 175839.2000 |

+-------------+-------------+

3 rows in set (0.00 sec)