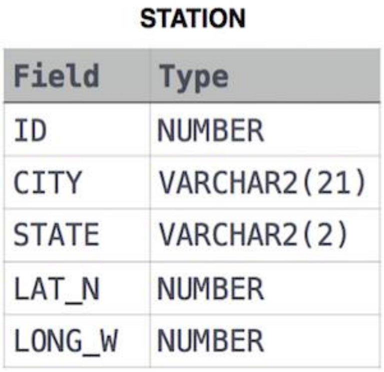
Hacker Rank Functions in SQL problem solution,

1. 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

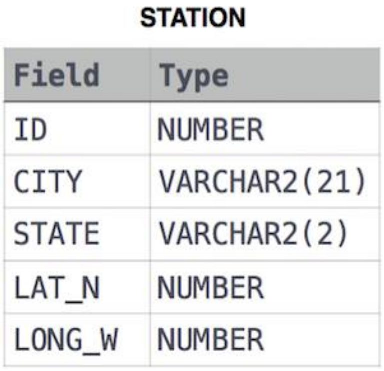
Not(city like ‘A%’ or city like ‘E%’ or city like ‘I%’ or city like ‘O%’ or city like ‘U%’) or

Not(city like ‘%A’ or city like ‘%E’ or city like ‘%I’ or city like ‘%O’ or city like ‘%U’);

2. 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

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ID	NUMBER
CITY	VARCHAR2(21)
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where *LAT_N* is the northern latitude and *LONG_W* is the western longitude.

ANSWER:

Select distinct city from station

Where

Not(city like ‘A%’ or city like ‘E%’ or city like ‘I%’ or city like ‘O%’ or city like ‘U%’) and

Not(city like ‘%A’ or city like ‘%E’ or city like ‘%I’ or city like ‘%O’ or city like ‘%U’);

3 . Write a query that prints a list of employee names (i.e.: the *name* attribute) from the **Employee** table in alphabetical order.

Input Format

The **Employee** table containing employee data for a company is described as follows:

Column	**Type**
employee_id	Integer
name	String
months	Integer
salary	Integer

where *employee_id* is an employee’s ID number, *name* is their name, *months* is the total number of months they’ve been working for the company, and *salary* is their monthly salary.

employee_id	**name**	**months**	**salary**
12228	Rose	15	1968
33645	Angela	1	3443
45692	Frank	17	1608
56118	Patrick	7	1345
59725	Lisa	11	2330
74197	Kimberly	16	4372

employee_id	**name**	**months**	**salary**
78454	Bonnie	8	1771
83565	Michael	6	2017
98607	Todd	5	3396
99989	Joe	9	3573

ANSWER:

SELECT name

FROM employee

ORDER BY name;

4 . Write a query that prints a list of employee names (i.e.: the *name* attribute) for employees in **Employee** having a salary greater than **$2000** per month who have been employees for less than **10** months. Sort your result by ascending *employee_id*.

Input Format

The **Employee** table containing employee data for a company is described as follows:

Column	**Type**
employee_id	Integer
name	String
months	Integer
salary	Integer

where *employee_id* is an employee's ID number, *name* is their name, *months* is the total number of months they've been working for the company, and *salary* is the their monthly salary.

Explanation

Angela has been an employee for **1** month and earns **$3443** per month.
Michael has been an employee for **6** months and earns **$2017** per month.
Todd has been an employee for **5** months and earns **$3396** per month.
Joe has been an employee for **9** months and earns **$3573** per month.
We order our output by ascending *employee_id*.

ANSWER:

```
select name from employee
where salary > 2000 and months <10
order By employee_id;
```

5 . Query a *count* of the number of cities in **CITY** having a *Population* larger than **100,000**.

Input Format

The **CITY** table is described as follows:

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

ANSWER:

```
SELECT COUNT(*)
FROM CITY
WHERE POPULATION > 100000;
```

6 . Query the total population of all cities in **CITY** where *District* is **California**.

Input Format

The **CITY** table is described as follows:

Field	Type
ID	NUMBER

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

ANSWER:

select sum(population)

from city

where district ='California';

7 . Query the average population of all cities in **CITY** where *District* is **California**.

Input Format

The **CITY** is described as follows:

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

ANSWER:

select avg(population)

from city

where district='California';

8 . Query the average population for all cities in **CITY**, rounded *down* to the nearest integer.

Input Format

The **CITY** is described as follows:

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

ANSWER:

```
select floor(avg(population)) from city;
```

(or)

```
select round(avg(population),0) from city;
```

9 . Query the sum of the populations for all Japanese cities in **CITY**. The *COUNTRYCODE* for Japan is **JPN**.

Input Format

The **CITY** table is described as follows:

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

Field	Type
POPULATION	NUMBER

ANSWER:

```
select sum(population)
from city
where countrycode='JPN';
```

10 . Query the difference between the maximum and minimum populations in **CITY**.

Input Format

The **CITY** table is described as follows:

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

ANSWER:

```
select max(population) - min(population)
 from city;
```