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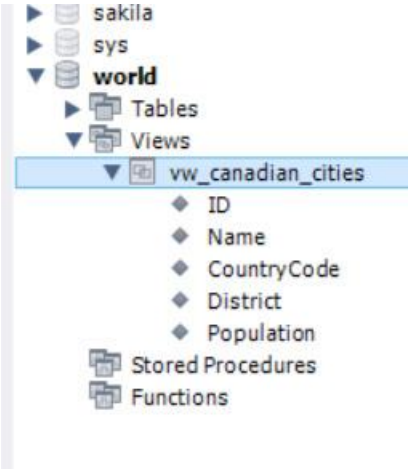
Lab 5

1. Write a query that displays all that is known about Canadian cities.
   use world;
   select *
   from city
   where CountryCode = "CAN";

2. Create a view vw_Canadian_cities based on the above query.

   CREATE VIEW vw_Canadian_cities AS
   SELECT *
   FROM city
   WHERE CountryCode = 'CAN';

3. In the top left panel of MySQL Workbench, expand the View menu item of the world database. In the menu bar, click on Query then Refresh to refresh the view and verify that the view vw_Canadian_cities is now listed.



4. Using the view from step 2, write a query that displays all that is known about Ottawa.

   SELECT *
   FROM vw_canadian_cities
   WHERE Name = “Ottawa”;

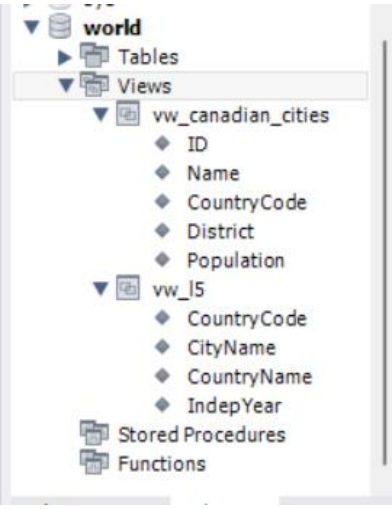
5. Write an update query on the view from step 2 to update the population of Ottawa to 883391.

   UPDATE vw_Canadian_cities
   SET Population = 883391

WHERE Name = 'Ottawa';

6. Rerun the query from Step 4. Is the Population updated? Yes
7. Create a view called vw_L5 that displays country codes, city names, country names and independence year of every country whose IndepYear field is not null. Rename the country name field "CountryName". (CREATE VIEW, INNER JOIN..ON, tables name and country). In the top left panel of MySQL Workbench, expand the View menu item of the world database. In the menu bar, click on Query then Refresh to refresh the view and verify that the view vw_L5 is now listed.

```
CREATE VIEW vw_L5 AS
SELECT co.Code as CountryCode, ci.Name as CityName, co.Name as
CountryName, co.IndepYear as IndepYear
FROM country co
INNER JOIN city AS ci ON co.Code = ci.CountryCode
WHERE co.IndepYear IS NOT NULL;
```



8. Using the view vw_L5, write a query that lists all distinct CountryNames.

```
SELECT DISTINCT CountryName
FROM vw_L5;
```

9. Create a view vw_L5_1 based on the above query.

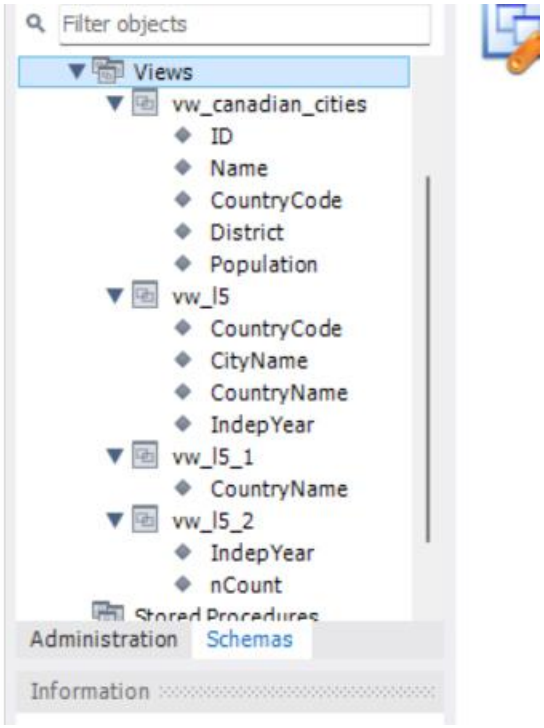
```
CREATE VIEW vw_L5_1 AS
SELECT DISTINCT CountryName
FROM vw_L5;
```

10. Using view vw_L5, write a query that reports the number of countries that became independent per year. Rename the number of countries as nCount (GROUP BY)

    SELECT IndepYear, COUNT (DISTINCT CountryName) AS nCount
    FROM vw_L5
    GROUP BY IndepYear;

11. Create a view vw_L5_2 based on the above query.

    CREATE VIEW vw_L5_2 AS
    SELECT IndepYear, COUNT(DISTINCT CountryName) AS nCount
    FROM vw_L5
    GROUP BY IndepYear;



12. Write an update query that updates the view vw_L5_2 and sets nCount to 21 for Indepyear 1066. Is the query succesful? Why or why not?

    UPDATE vw_l5_2
    SET nCount = 21
    WHERE IndepYear = 1066;

No, because we cannot directly update an aggregate value such as the nCount column in the vw_L5_2 view, as it is the result of a grouping and aggregation operation performed on the Country table through the vw_L5 view.

13. Joining vw_L5 and CountryLanguage, write a query that lists the countryName along with the languages spoken in each country and their respective percentages. Sort the list by CountryName then by language. Make sure each record occurs only once.

```
SELECT DISTINCT c.CountryName, cl.Language, cl.Percentage
FROM vw_L5 c
JOIN CountryLanguage cl ON c.CountryCode = cl.CountryCode
ORDER BY c.CountryName, cl.Language;
```

14. Drop the view vw_L5;

```
DROP VIEW IF EXISTS vw_l5;
```

15. Drop the view vw_L5_1;

```
DROP VIEW IF EXISTS vw_L5_1;
```

16. Drop the view vw_L5_2;

```
DROP VIEW IF EXISTS vw_L5_2;
```

17. Drop the view vw_Canadian_cities;

```
DROP VIEW IF EXISTS vw_Canadian_cities;
```