CREATE VIEW

Qa) Create VIEW table

```
CREATE VIEW forestation AS
SELECT f.country_code, f.country_name, f.year, f.forest_area_sqkm,
        l.total_area_sq_mi, r.region, r.income_group,
   ((f.forest_area_sqkm/2.59)/l.total_area_sq_mi)*100 AS
forest_percent_inmile
FROM forest_area AS f
JOIN land_area AS l ON f.country_code = l.country_code
        AND f.year = l.year
JOIN regions AS r ON r.country_code = l.country_code
```

GLOBAL SITUATION

Qa) find the total forest area of the world in 1990

```
SELECT forest_area_sqkm
FROM forestation
WHERE year = '1990' AND country_name = 'World'
```

Qb) find the total forest area of the world in 2016

```
SELECT forest_area_sqkm
FROM forestation
WHERE year = '2016' AND country_name = 'World'
```

Qc) find the total loss from 1990 to 2016

```
WITH find_km_year AS
        (SELECT forest_area_sqkm, year, country_name
        FROM forestation
        WHERE year IN('1990','2016') AND country_name =
      'World')
SELECT (t2.forest_area_sqkm - t1.forest_area_sqkm) AS total_loss,
        ((t2.forest_area_sqkm - t1.forest_area_sqkm)
      /t2.forest_area_sqkm)*100 AS total_lost_percent
FROM find_km_year AS t1
JOIN find_km_year AS t2 ON t1.country_name = t2.country_name
WHERE t1.year = '2016' AND t2.year = '1990'
```

Qd) find the total loss percent from 1990 to 2016

```
WITH sil_area AS
        (SELECT country_name, total_area_sq_mi
        FROM forestation
        WHERE year = '2016')
SELECT country_name, ABS((total_area_sq_mi*2.59)-1324449) AS close_area
FROM sil_area
ORDER BY close_area

#after found which country is closest, find the land area of that country

SELECT DISTINCT country_name, total_area_sq_mi*2.59
FROM land_area
WHERE country_name = 'Peru'
```

REGIONAL OUTLOOK

Qa-1) What was the percent forest of the entire world in 2016?

```
SELECT
ROUND((SUM(forest_area_sqkm)/SUM((total_area_sq_mi*2.59))*100)::NUMERIC,2) AS
        total_area_percent, year
FROM forestation
WHERE year = '2016'
GROUP BY 2
```

Qa-2) Which region had the HIGHEST percent forest in 2016, and which had the LOWEST, to 2 decimal places?

```
SELECT
ROUND((SUM(forest_area_sqkm)/SUM(total_area_sq_mi*2.59)*100)::DECIMAL,2)
        AS total_area_percent, region
FROM forestation
WHERE year = '2016'
GROUP BY 2
ORDER BY 1 DESC

opinion1)
ROUND((SUM(forest_area_sqkm)/SUM(total_area_sq_mi*2.59)*100)::NUMERIC,2)
        AS total_area_percent, region
opinion2)
ROUND(CAST(SUM(forest_area_sqkm)/SUM(total_area_sq_mi*2.59)*100 AS
NUMERIC),2) AS total_area_percent, region
```

Qb-1) What was the percent forest of the entire world in 1990?

```
SELECT
ROUND((SUM(forest_area_sqkm)/SUM((total_area_sq_mi*2.59))*100)::NUMERIC,2) AS
        total_area_percent, year
FROM forestation
WHERE year = '1990'
GROUP BY 2
```

Qb-2) Which region had the HIGHEST percent forest in 1990, and which had the LOWEST, to 2 decimal places?

```
SELECT
ROUND((SUM(forest_area_sqkm)/SUM(total_area_sq_mi*2.59)*100)::DECIMAL,2)
        AS total_area_percent, region
FROM forestation
WHERE year = '1990'
GROUP BY 2
ORDER BY 1 DESC
```

Qc) Based on the table you created, which regions of the world DECREASED in forest area from 1990 to 2016?

```
WITH dec_region AS
        (SELECT SUM(forest_area_sqkm) AS sum_forest, region, year
        FROM forestation
        WHERE year IN ('1990','2016')
        GROUP BY 2,3)
SELECT t1.region
FROM dec_region AS t1
JOIN dec_region AS t2 ON t1.region = t2.region
WHERE t2.year = '1990' AND t1.year = '2016' AND t1.sum_forest<t2.sum_forest
```

*with above code, i can find which regions of the world decreased

```
SELECT ROUND((SUM(forest_area_sqkm)/SUM(total_area_sq_mi*2.59)*100)
        ::NUMERIC,2)AS percentage ,region, year
FROM forestation
WHERE year IN ('1990','2016') AND region IN('Latin America & Caribbean','Sub-Saharan
Africa','World')
GROUP BY 2, 3
ORDER BY region
```

*use above code to find the percentage

COUNTRY-LEVEL DETAIL

Q) Success stories(this problem is not listed on the step-to-do pages)

```
WITH de_forest AS
        (SELECT country_name, year, forest_area_sqkm
        FROM forestation
        WHERE year IN ('1990','2016'))
SELECT t1.country_name, (t1.forest_area_sqkm - t2.forest_area_sqkm)
        AS decrese_forest
FROM de_forest AS t1
JOIN de_forest AS t2 ON t1.country_name = t2.country_name
WHERE t1.year = '1990' AND t2.year = '2016'
ORDER BY 2
```

-after finding two largest increase countries, find the most increased percentage country

```
WITH de_forest AS
        (SELECT country_name, year, forest_area_sqkm
        FROM forestation
        WHERE year IN ('1990','2016'))
SELECT t1.country_name,
      round(((t1.forest_area_sqkm-t2.forest_area_sqkm)/t1.forest_area_sqkm
       *100)::NUMERIC,2) AS dec_percentage
FROM de_forest AS t1
JOIN de_forest AS t2 ON t1.country_name = t2.country_name
WHERE t1.year = '1990' AND t2.year = '2016'
ORDER BY 2
```

Qa) which 5 countries saw the largest amount decrease in forest area from 1990 to 2016? What was the difference in forest area for each?

```
WITH de_forest AS
        (SELECT country_name, year, forest_area_sqkm, region
        FROM forestation
        WHERE year IN ('1990','2016'))
SELECT t1.country_name, (t1.forest_area_sqkm - t2.forest_area_sqkm)
        AS decrese_forest, t1.region
FROM de_forest AS t1
JOIN de_forest AS t2 ON t1.country_name = t2.country_name
WHERE t1.year = '1990' AND t2.year = '2016'
ORDER BY 2 DESC
```

Qb) Which 5 countries saw the largest percent decrease in forest area from 1990 to 2016? What was the percent change to 2 decimal places for each?

```
WITH de_forest AS
        (SELECT country_name, year, forest_area_sqkm, region
        FROM forestation
        WHERE year IN ('1990','2016'))
SELECT t1.country_name,
      round(((t1.forest_area_sqkm-t2.forest_area_sqkm)/t1.forest_area_sqkm
       *100)::NUMERIC,2) AS dec_percentage, t1.region
FROM de_forest AS t1
JOIN de_forest AS t2 ON t1.country_name = t2.country_name
WHERE t1.year = '1990' AND t2.year = '2016'
ORDER BY 2 DESC
```

Qc) If countries were grouped by percent forestation in quartiles, which group had the most countries in it in 2016?

```
WITH t1 AS
        (SELECT forest_area_sqkm/(total_area_sq_mi*2.59)*100 AS find_percent,
country_name,year
        FROM forestation)
SELECT COUNT(country_name),
        CASE
   WHEN find_percent <= 25 THEN 'Q1'
   WHEN find_percent < 50 THEN 'Q2'
   WHEN find_percent < 75 THEN 'Q3'
   ELSE 'Q4' END AS quartiles
FROM t1
WHERE year = '2016' AND find_percent IS NOT NULL AND  country_name != 'World'
GROUP BY 2
ORDER BY 2
```

Qd) List all of the countries that were in the 4th quartile (percent forest > 75%) in 2016

```
SELECT country_name, region, forest_percent_inmile
FROM forestation
WHERE forest_percent_inmile > 75 AND year  = 2016
ORDER BY 3 DESC
```

Qe) How many countries had a percent forestation higher than the United States in 2016?

```
SELECT country_name,forest_percent_inmile  AS percent
FROM forestation
WHERE year= 2016 AND forest_percent_inmile  >
(SELECT forest_percent_inmile
FROM forestation
WHERE country_name = 'United States' AND year = '2016')
ORDER BY 2
```