The queries appendix

```
SELECT *
FROM forest_area

___
SELECT *
FROM land_area
------
SELECT *
FROM regions
```

1. GLOBAL SITUATION

```
CREATE VIEW Forestation
AS
(SELECT
f.year AS year,
f.forest_area_sqkm AS forest_area_sqkm,
f.country_name AS country_name,
f.country_code AS country_code,
(l.total_area_sq_mi*2.59) AS land_total_area_sqkm,
r.region AS region,
r.income_group AS income_group,
 (f.forest_area_sqkm) /
 (l.total_area_sq_mi*2.59)*100 AS percentage_forest_area
FROM forest_area f
JOIN land_area l
ON f.country_code=l.country_code AND f.year=l.year
JOIN regions r
ON r.country_code=f.country_code
)
land total area sqmi = land_total_area_sqkm
SELECT (land_total_area_sq_mi *2.59) AS land_total_area_sqkm
FROM forestation
a.
SELECT country_name , year, forest_area_sqkm
FROM forestation
WHERE region= 'World' and year=1990

b.
SELECT country_name , year, forest_area_sqkm
FROM forestation
WHERE region= 'World' and year='2016'
c.
WITH CTE_1990 AS
 (SELECT country_name , year, forest_area_sqkm
```

```
FROM forestation
WHERE region= 'World' and year=1990),

CTE_2016 AS
(SELECT country_name , year, forest_area_sqkm
FROM forestation
WHERE region= 'World' and year=2016)

SELECT (CTE_1990.forest_area_sqkm-CTE_2016.forest_area_sqkm) AS new_area
FROM CTE_1990
JOIN CTE_2016
ON CTE_1990.country_name=CTE_2016.country_name
```

d.

```
WITH CTE_1990 AS

(SELECT country_name , year, forest_area_sqkm
FROM forestation
WHERE region= 'World' and year=1990),

CTE_2016 as
(SELECT country_name , year, forest_area_sqkm
FROM forestation
WHERE region= 'World' and year=2016)

SELECT (CTE_1990.forest_area_sqkm-CTE_2016.forest_area_sqkm) AS
new_area,
ROUND(((CTE_2016.forest_area_sqkm-
CTE_1990.forest_area_sqkm)*100/CTE_1990.forest_area_sqkm)::numeric,2) AS
percent_change
FROM CTE_1990
JOIN CTE_2016
ON CTE_1990.country_name=CTE_2016.country_name
```

e.

```
SELECT year, country_name, land_total_area_sqkm, forest_area_sqkm
FROM forestation
WHERE year='2016'
AND  land_total_area_sqkm BETWEEN 1200000 and 140000
```

2. REGIONAL OUTLOOK

Finding percentage forest from the whole world
Create table by instructions

```
CREATE VIEW regional_area as
```

```
 (SELECT
          region,
          year,
           country_name,
 SUM (forest_area_sqkm) AS total_forest_area_sqkm,
SUM (forest_area_sqkm)/SUM (land_total_area_sqkm)*100 AS
percentage_forest_area
FROM forestation
 WHERE year='2016' or year='1990'
 GROUP BY 1,2,3
 ORDER BY 1,2)
```

FILL IN Table 2.1

forest percent of world 1990

```
SELECT
region,
round(percentage_forest_area::numeric,2)
FROM regional_area
WHERE year=1990
ORDER BY 2
```

forest percent of world 2016

```
SELECT
region,
ROUND (percentage_forest_area::numeric,2)
FROM regional_area
WHERE year=2016
ORDER BY 2
```

Region highest 2016

```
SELECT
region,
ROUND(percentage_forest_area::numeric,2)
FROM regional_area
WHERE year='2016'
ORDER BY 2 desc
```

Region lowest 2016

```
SELECT
region,
ROUND (percentage_forest_area::numeric,2)
FROM regional_area
WHERE year='2016'
ORDER BY 2
```

Region lowest 1990

```
SELECT
region,
ROUND (percentage_forest_area::numeric,2)
```

```
FROM regional_area
WHERE year='1990'
ORDER BY 2
```
Region highest 1990
```
SELECT
region,
ROUND (percentage_forest_area::numeric,2)
FROM regional_area
WHERE year='1990'
 ORDER BY 2 desc
```

3. COUNTRY-LEVEL DETAIL

Fill in the success stories
```
WITH
forest_increas_90 AS
  (select country_name AS name_90,
  forest_area_sqkm AS forest_90
  FROM forestation
  WHERE year =1990 AND forest_area_sqkm IS NOT NULL
  ORDER BY 2 desc),

forest_increas_16 AS
(SELECT
country_name AS name_16,
  forest_area_sqkm AS forest_16
  FROM forestation
 WHERE year =2016 AND forest_area_sqkm IS NOT NULL
  ORDER BY 1 desc)

SELECT
name_90,
ABS(forest_16-forest_90) AS forest_new
FROM forest_increas_90
JOIN forest_increas_16
ON forest_increas_90.name_90=forest_increas_16.name_16
ORDER BY 2 DESC
LIMIT 5
```
(ABC func. I put into the code in order to have the absolute prectenge+ desc in order by)

Fill in table 3.1
```
WITH
forest_increas_90 AS
  (select country_name AS name_90,
  forest_area_sqkm AS forest_90
  FROM forestation
```

```
  WHERE year =1990 AND forest_area_sqkm IS NOT NULL
  ORDER BY 2 desc),
forest_increas_16 AS
(SELECT
country_name AS name_16,
  region,
 forest_area_sqkm AS forest_16

  FROM forestation
 WHERE year =2016 AND forest_area_sqkm IS NOT NULL
  ORDER BY 1 desc)

SELECT
name_90,
(forest_90-forest_16) AS forest_new,
region
FROM forest_increas_90
JOIN forest_increas_16
ON forest_increas_90.name_90=forest_increas_16.name_16
ORDER BY 2 DESC
LIMIT 6 (choose 6 and not 5 because I didn't calculate the "World" which came first)
```

b. LARGEST CONCERNS

5 countries which have increase their forest

```
WITH
country_years  AS
(
  SELECT forestation.*
  FROM forestation where
  year in (1990 , 2016)
  AND country_code !='WLD' /*excluded*/
  ORDER BY country_code , year desc
 ),
y2016 AS
(select year, forest_area_sqkm,country_name, region
FROM country_years
WHERE year=2016 AND forest_area_sqkm IS NOT NULL) ,
y1990 AS
(SELECT year, forest_area_sqkm,country_name, region
FROM country_years
WHERE year=1990 AND forest_area_sqkm IS NOT NULL)
SELECT
    y2016.country_name,y2016.region,
    (y2016.forest_area_sqkm-
y1990.forest_area_sqkm)/y1990.forest_area_sqkm*100 AS diff_perc
   FROM  y2016
```

```
JOIN y1990 ON y2016.country_name=y1990.country_name
ORDER BY 3 desc
LIMIT 5
```

4 .QUARTILES

Table 3.3: Count of Countries Grouped by Forestation Percent Quartiles, 2016:

```
WITH tab_2016
AS (SELECT *
FROM   forestation
WHERE  year = 2016),
quar1
AS (SELECT *
FROM   tab_2016
WHERE  percentage_forest_area BETWEEN 0 AND 25),
quar2
AS (SELECT *
FROM   tab_2016
WHERE  percentage_forest_area BETWEEN 25 AND 50 AND country_name NOT
IN ('World')),
quar3
AS (SELECT *
FROM   tab_2016
WHERE  percentage_forest_area BETWEEN 50 AND 75),
quar4
AS (SELECT *
FROM   tab_2016
WHERE  percentage_forest_area BETWEEN 75 AND 100),
quarentiles
AS (SELECT '1' AS quarentile,
Count(*)
FROM   quar1
UNION
SELECT '2' AS quarentile,
Count(*)
FROM   quar2
UNION
SELECT '3' AS quarentile,
Count(*)
FROM   quar3
UNION
SELECT '4' AS quarentile,
Count(*)
FROM   quar4)
SELECT *
FROM   quarentiles
```

```
ORDER  BY quarentile_____
```

Table 3.4: Top Quartile Countries, 2016:

```
WITH tab_2016
AS (SELECT *
FROM   forestation
WHERE  year = 2016),

quar4
AS (SELECT *
FROM   tab_2016
WHERE  percentage_forest_area BETWEEN 75 AND 100)

SELECT country_name,region, percentage_forest_area

FROM  quar4
ORDER  BY 3 desc
```