Q1

SELECT \*

FROM coronavirus

WHERE province IS NULL

OR country\_region IS NULL

OR latitude IS NULL

OR longitude IS NULL

OR date IS NULL

OR confirmed IS NULL

OR deaths IS NULL

OR recovered IS NULL;

Q2

UPDATE coronavirus

SET

province = COALESCE(province, 'Unknown'),

country\_region = COALESCE(country\_region, 'Unknown'),

latitude = COALESCE(latitude, 0),

longitude = COALESCE(longitude, 0),

confirmed = COALESCE(confirmed, 0),

deaths = COALESCE(deaths, 0),

recovered = COALESCE(recovered, 0);

Q3

SELECT COUNT(\*) AS total\_rows

FROM coronavirus;

Q4

SELECT

MIN(date) AS start\_date,

MAX(date) AS end\_date

FROM coronavirus;

Q5

SELECT COUNT(DISTINCT EXTRACT(YEAR FROM date) || '-' || EXTRACT(MONTH FROM date)) AS month\_count

FROM coronavirus;

Q6

SELECT

EXTRACT(YEAR FROM date) AS year,

EXTRACT(MONTH FROM date) AS month,

AVG(confirmed) AS avg\_confirmed,

AVG(deaths) AS avg\_deaths,

AVG(recovered) AS avg\_recovered

FROM coronavirus

GROUP BY year, month

ORDER BY year, month;

Q7

WITH MonthlyData AS (

SELECT

EXTRACT(YEAR FROM date) AS year,

EXTRACT(MONTH FROM date) AS month,

confirmed,

deaths,

recovered,

ROW\_NUMBER() OVER (PARTITION BY EXTRACT(YEAR FROM date), EXTRACT(MONTH FROM date), confirmed ORDER BY COUNT(\*) DESC) AS rn\_confirmed,

ROW\_NUMBER() OVER (PARTITION BY EXTRACT(YEAR FROM date), EXTRACT(MONTH FROM date), deaths ORDER BY COUNT(\*) DESC) AS rn\_deaths,

ROW\_NUMBER() OVER (PARTITION BY EXTRACT(YEAR FROM date), EXTRACT(MONTH FROM date), recovered ORDER BY COUNT(\*) DESC) AS rn\_recovered

FROM coronavirus

GROUP BY EXTRACT(YEAR FROM date), EXTRACT(MONTH FROM date), confirmed, deaths, recovered

)

SELECT

year,

month,

confirmed AS most\_frequent\_confirmed,

deaths AS most\_frequent\_deaths,

recovered AS most\_frequent\_recovered

FROM MonthlyData

WHERE rn\_confirmed = 1 OR rn\_deaths = 1 OR rn\_recovered = 1

ORDER BY year, month;

Q8

SELECT

EXTRACT(YEAR FROM date) AS year,

MIN(confirmed) AS min\_confirmed,

MIN(deaths) AS min\_deaths,

MIN(recovered) AS min\_recovered

FROM coronavirus

GROUP BY year

ORDER BY year;

Q9

SELECT

EXTRACT(YEAR FROM date) AS year,

MAX(confirmed) AS max\_confirmed,

MAX(deaths) AS max\_deaths,

MAX(recovered) AS max\_recovered

FROM coronavirus

GROUP BY year

ORDER BY year;

Q10

SELECT

EXTRACT(YEAR FROM date) AS year,

EXTRACT(MONTH FROM date) AS month,

SUM(confirmed) AS total\_confirmed,

SUM(deaths) AS total\_deaths,

SUM(recovered) AS total\_recovered

FROM coronavirus

GROUP BY EXTRACT(YEAR FROM date), EXTRACT(MONTH FROM date)

ORDER BY year, month;

Q11

SELECT

SUM(confirmed) AS total\_confirmed,

AVG(confirmed) AS avg\_confirmed,

VARIANCE(confirmed) AS variance\_confirmed,

STDDEV(confirmed) AS stdev\_confirmed

FROM coronavirus;

Q12

SELECT

EXTRACT(YEAR FROM date) AS year,

EXTRACT(MONTH FROM date) AS month,

SUM(deaths) AS total\_deaths,

AVG(deaths) AS avg\_deaths,

VARIANCE(deaths) AS variance\_deaths,

STDDEV(deaths) AS stdev\_deaths

FROM coronavirus

GROUP BY EXTRACT(YEAR FROM date), EXTRACT(MONTH FROM date)

ORDER BY year, month;

Q13

SELECT

SUM(recovered) AS total\_recovered,

AVG(recovered) AS avg\_recovered,

VARIANCE(recovered) AS variance\_recovered,

STDDEV(recovered) AS stdev\_recovered

FROM coronavirus;

Q14

SELECT

country\_region,

SUM(confirmed) AS total\_confirmed

FROM coronavirus

GROUP BY country\_region

ORDER BY total\_confirmed DESC

LIMIT 1;

Q15

SELECT

country\_region,

SUM(deaths) AS total\_deaths

FROM coronavirus

GROUP BY country\_region

ORDER BY total\_deaths ASC

LIMIT 1;

Q16

SELECT

country\_region,

SUM(recovered) AS total\_recovered

FROM coronavirus

GROUP BY country\_region

ORDER BY total\_recovered DESC

LIMIT 5;