```
  - Q1 checking the null values
SELECT count(*) as Null_values FROM `corona_virus.corona`
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;
```

Row	Null_values
1	0

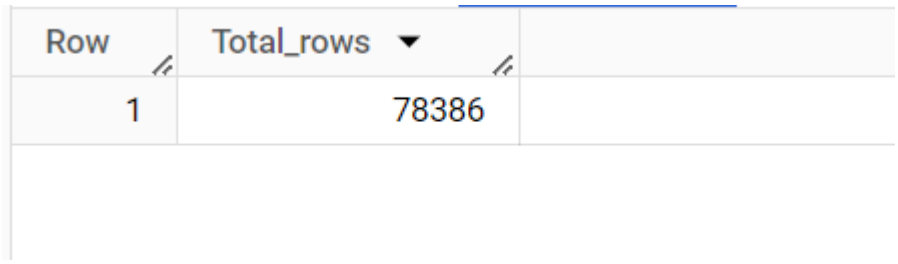
Insight – There are null values present in the data

--Q2. If NULL values are present, update them with zeros for all columns.

Insight- Because there a no null values so we didn’t update the value

--Q3. check the number of rows Present in the dataset.

```
select count(*) as Total_rows FROM `corona_virus.corona`;
```

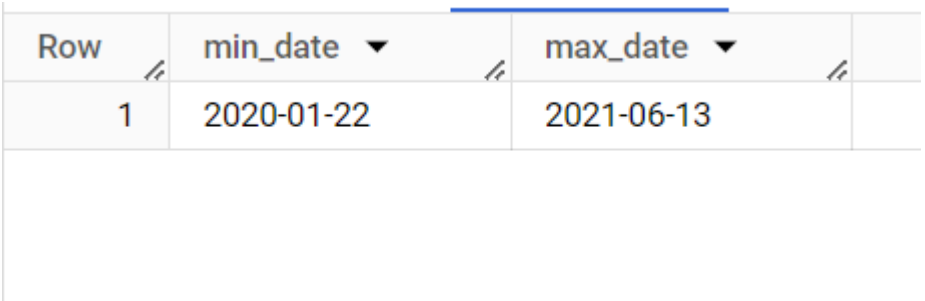


Row	Total_rows
1	78386

Insight- There are total 78386 rows are present in the data set

```
-- Q4. Check what is start_date and end_date

SELECT MIN(Date) as min_date, MAX(Date) as max_date FROM
`corona_virus.corona` ;
```



Row	min_date	max_date
1	2020-01-22	2021-06-13

Insight- The data is from 22-01-2020 till 13-06-2021

```
-- Q5. Number of month present in dataset

SELECT COUNT(DISTINCT CONCAT(EXTRACT(YEAR FROM Date), '-',
EXTRACT(MONTH FROM Date))) as Months
FROM `corona_virus.corona`;
```

Row	Number_of_Months
1	18

Insight- There are total 18 Months are present in the data

```
--Q6. Find monthly average for confirmed, deaths,
recovered

SELECT EXTRACT(Year FROM DATE) AS YEAR,EXTRACT(MONTH FROM
DATE) AS MONTH,ROUND(AVG(Confirmed),2) as Avg_Confirmed,
ROUND(AVG(deaths),2) as Avg_deaths,
ROUND(AVG(Recovered),2) as Avg_Recoverd
from `corona_virus.corona`
group by 1 ,2
ORDER BY 1 ,2 ASC;
```

Row	YEAR	MONTH	Avg_Confirmed	Avg_deaths	Avg_Recoverd
1	2020	1	4.15	0.12	0.09
2	2020	2	15.3	0.59	7.03
3	2020	3	161.13	8.66	27.87
4	2020	4	505.8	41.52	171.64
5	2020	5	574.85	30.28	318.3
6	2020	6	859.23	29.82	548.79
7	2020	7	1432.36	35.11	983.06
8	2020	8	1611.84	37.54	1299.29
9	2020	9	1784.59	34.78	1438.91
10	2020	10	2412.2	36.76	1420.64

This is the monthly average data for confirmed, deaths, recovered

```sql
-- Q7. Find most frequent value for confirmed, deaths,
recovered each month

SELECT *
FROM (
    SELECT *, RANK() OVER (ORDER BY Year) AS rank
    FROM (
        SELECT EXTRACT(YEAR FROM date) AS Year,
EXTRACT(MONTH FROM date) AS month, COUNT(confirmed) AS
confirmed, COUNT(deaths) AS deaths, COUNT(recovered) AS
recovered
        FROM `corona_virus.corona`
        GROUP BY 1, 2
        ORDER BY 1, 2
    ) tbl
) ranked_data
WHERE rank = 1
order by confirmed;
```

JOB INFORMATION | RESULTS | CHART | JSON | EXECUTION DETAILS | EXECUTION GRAPH

Row	Year	month	confirmed	deaths	recovered	rank
1	2020	1	1540	1540	1540	1
2	2020	2	4466	4466	4466	1
3	2020	9	4620	4620	4620	1
4	2020	6	4620	4620	4620	1
5	2020	11	4620	4620	4620	1
6	2020	4	4620	4620	4620	1
7	2020	8	4774	4774	4774	1
8	2020	12	4774	4774	4774	1

Insight – As you can see 9,6,11,4 months in year 2020 have most frequent value for confirmed, deaths, recovered each month

```sql
-- Q8. Find minimum values for confirmed, deaths,
recovered per year
select extract(year from date) as year, min(confirmed) as
min_confirmed, min(deaths) as min_deaths, min(recovered)
as min_recovered
from `corona_virus.corona`
group by 1
order by 1 desc;
```

Row	year	min_confirmed	min_deaths	min_recovered
1	2021	0	0	0
2	2020	0	0	0

Insight – The minimum value for confirmed, deaths, recovered per year

```
-- Q9. Find maximum values of confirmed, deaths, recovered per year
select extract(year from date) as year, max(confirmed) as max_confirmed, max(deaths) as max_deaths, max(recovered) as max_recovered
from `corona_virus.corona`
group by 1
order by 1 ;
```

Row	year	max_confirmed	max_deaths	max_recovered
1	2020	823225	3752	1123456
2	2021	414188	7374	422436

Insight – The Maximum value for confirmed, deaths, recovered per year

```
-- Q10. The total number of case of confirmed, deaths, recovered each month
```

```sql
select extract (year from Date) as Year,extract (month
from date) as month, sum(confirmed) as
Total_confrimed,sum(deaths) as Total_deaths,
sum(recovered) as Total_recovered
from `corona_virus.corona`
group by 1,2
order by 1,2 ;
```

Row	Year	month	Total_confrimed	Total_deaths	Total_recovered
1	2020	1	6384	190	143
2	2020	2	68312	2651	31405
3	2020	3	769236	41346	133070
4	2020	4	2336798	191833	792987
5	2020	5	2744333	144561	1519547
6	2020	6	3969634	137757	2535417
7	2020	7	6838092	167613	4693120
8	2020	8	7694938	179200	6202833
9	2020	9	8244794	160671	6647749
10	2020	10	11515841	175484	6782150

Insight – These are the total number of case of confirmed, deaths, recovered each month

```sql
-- Q11. Check how corona virus spread out with respect to
confirmed case
--      (Eg.: total confirmed cases, their average,
variance & STDEV )
select
sum(Confirmed) as total_confirmed,
round(avg(Confirmed),2) as avg_confirmed,
round(variance(Confirmed),2)as variance_Confirmed,
round(stddev(Confirmed),2) as std_confirmed
from `corona_virus.corona`;
```

Row	total_confirmed	avg_confirmed	variance_Confirmed	std_confirmed
1	169065144	2156.83	157290931.7	12541.57

Insight – as per the given question the total confirmed ,average confirmed, variance confirmed and standard deviation is displayed in above image

```
-- Q12. Check how corona virus spread out with respect to death case per month
--      (Eg.: total confirmed cases, their average, variance & STDEV )
```

```
select
sum(Deaths) as total_Deaths,
round(avg(Deaths),2) as avg_Deaths,
round(variance(Deaths),2)as variance_Deaths,
round(stddev(Deaths),2) as std_Deaths
from `corona_virus.corona`;
```

Row	total_Deaths	avg_Deaths	variance_Deaths	std_Deaths
1	3647894	46.54	45892.6	214.23

Insight – as per the given question the total deaths, average deaths, variance deaths and standard deviation is displayed in above image

```
-- Q13. Check how corona virus spread out with respect to recovered case
--      (Eg.: total confirmed cases, their average, variance & STDEV )
select
sum(Recovered) as total_Recovered,
round(avg(Recovered),2) as avg_Recovered,
```

```
round(variance(Recovered),2)as variance_Recovered,
round(stddev(Recovered),2) as std_Recovered
from `corona_virus.corona`;
```

Row	total_Recovered	avg_Recovered	variance_Recovered	std_Recovered
1	113089548	1442.73	107030888.7	10345.57

Insight – as per the given question the total recovered, average recovered, variance recovered and standard deviation is displayed in above image

```
-- Q14. Find Country having highest number of the
Confirmed case
```

```
select Country_Region,max(confirmed) as max_confirmed
from `corona_virus.corona`
group by 1
order by 2 desc
limit 1;
```

Row	Country_Region	max_confirmed
1	Turkey	823225

Insight – Turkey have the maximum confirmed cases

```
-- Q15. Find Country having lowest number of the death
case

select Country_Region,sum(Deaths) as min_Deaths
from `corona_virus.corona`
group by 1
```

```
order by 2
;
```

Row	Country_Region	min_Deaths
1	Dominica	0
2	Kiribati	0
3	Marshall Islands	0
4	Samoa	0
5	Bhutan	1
6	Mauritius	18
7	Tanzania	21
8	New Zealand	26
9	Singapore	34
10	Iceland	35

Insight – These are country with minimum deaths

```
-- Q16. Find top 5 countries having highest recovered case

select Country_Region,sum(Recovered) as max_Recovered
from `corona_virus.corona`
group by 1
order by 2 desc
limit 5;
```

Row	Country_Region	max_Recovered
1	India	28089649
2	Brazil	15400169
3	US	6303715
4	Turkey	5202251
5	Russia	4745756

Insight – These are top 5 country with maximum recovered cases