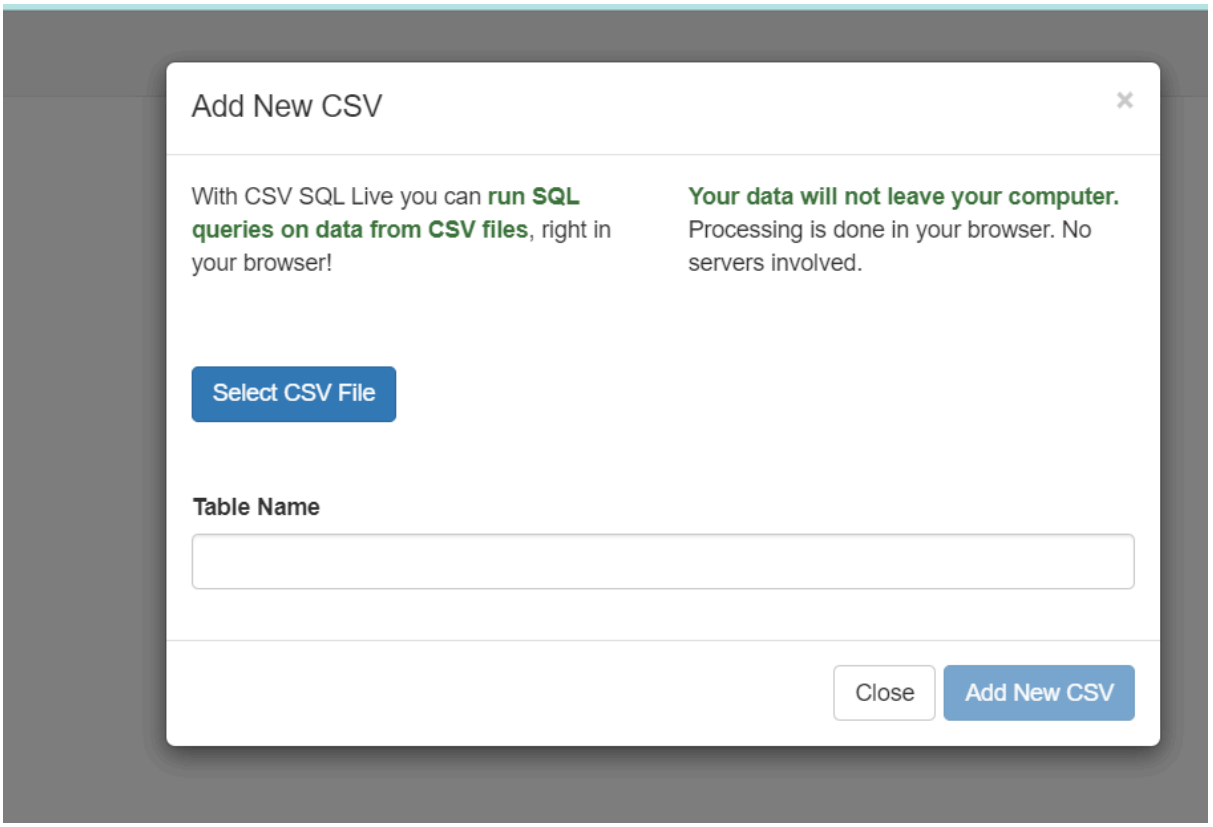
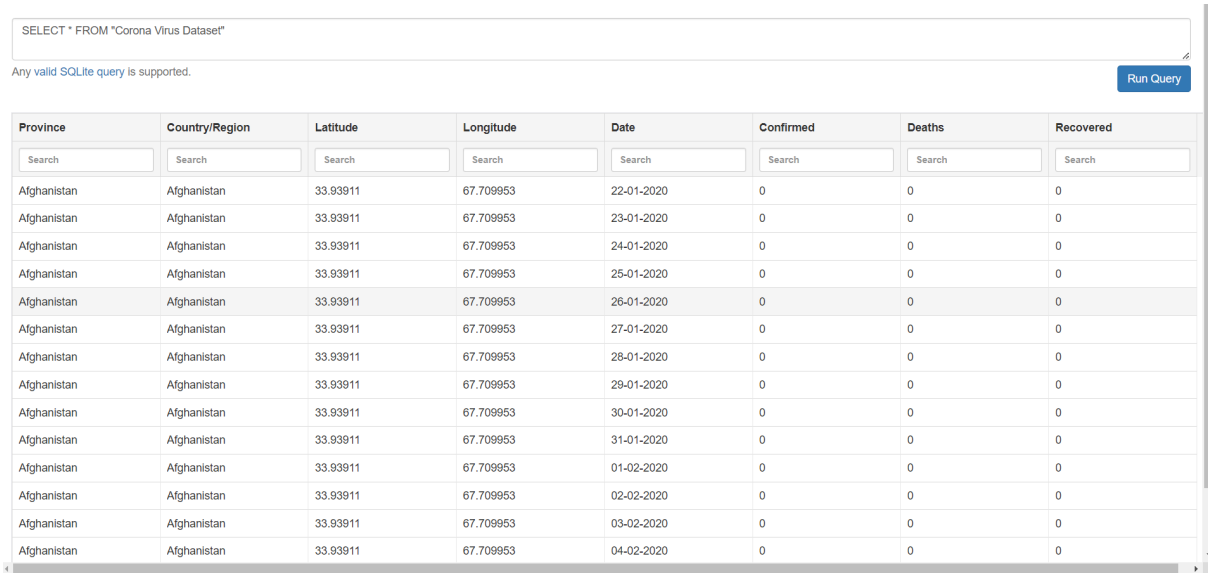
ADD CSV FILE FOR QUERIES:-



DATASET IS LOADED AND READY FOR THE QUERIES.
We used SELECT * that selects all the data from the dataset.



Province	Country/Region	Latitude	Longitude	Date	Confirmed	Deaths	Recovered
Search	Search	Search	Search	Search	Search	Search	Search
Afghanistan	Afghanistan	33.93911	67.709953	22-01-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	23-01-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	24-01-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	25-01-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	26-01-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	27-01-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	28-01-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	29-01-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	30-01-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	31-01-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	01-02-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	02-02-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	03-02-2020	0	0	0
Afghanistan	Afghanistan	33.93911	67.709953	04-02-2020	0	0	0

Q1. Write a code to check NULL values ?

CODE:-

```
SELECT * FROM "Corona Virus Dataset"
WHERE "Corona Virus Dataset" IS NULL;
```

```
SELECT * FROM "Corona Virus Dataset"
WHERE  "Corona Virus Dataset" is NULL;
```

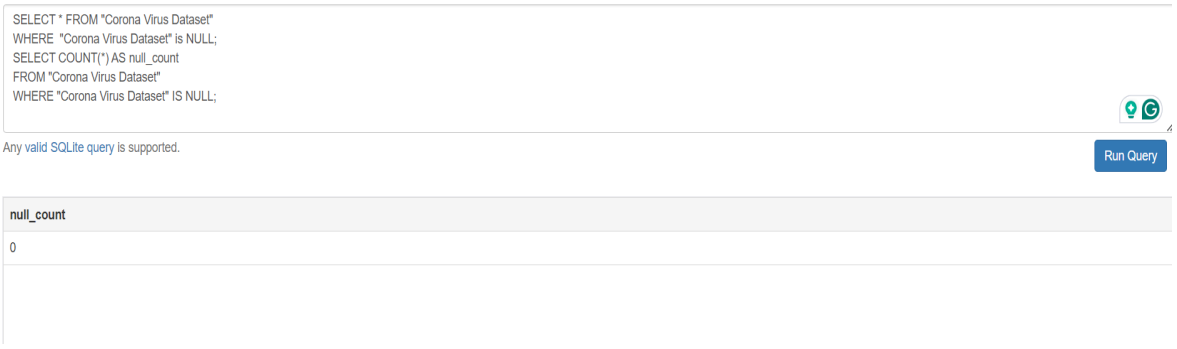
Any valid SQLite query is supported.

No rows returned.

********All the rows are Not NULL.********

CODE:-

```
SELECT * FROM "Corona Virus Dataset"
WHERE  "Corona Virus Dataset" is NULL;
SELECT COUNT(*) AS null_count
FROM "Corona Virus Dataset"
WHERE "Corona Virus Dataset" IS NULL;
```



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

SO as we can see from the above pic, it shows that there are no NULL spaces fro te Dataset
So, there is no Update needed in the columns.

Q3. check total number of rows?

QUERY:-

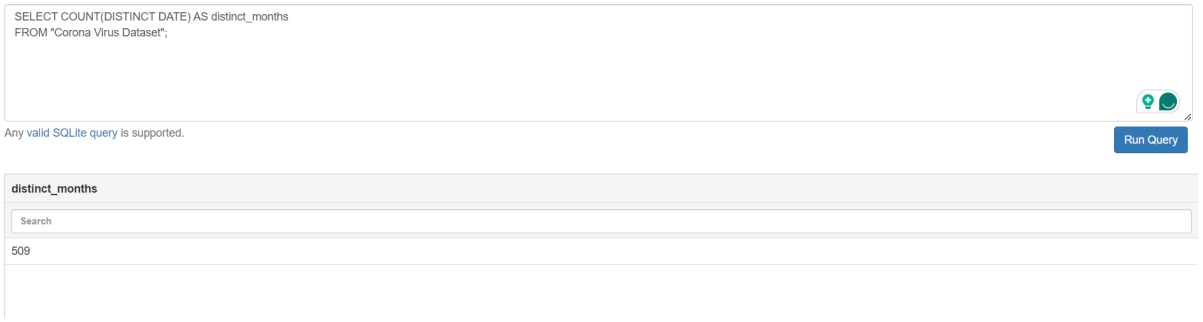
```
SELECT COUNT(*) AS total_rows
FROM "Corona Virus Dataset"
```

Q4. Check what is start_date and end_date?

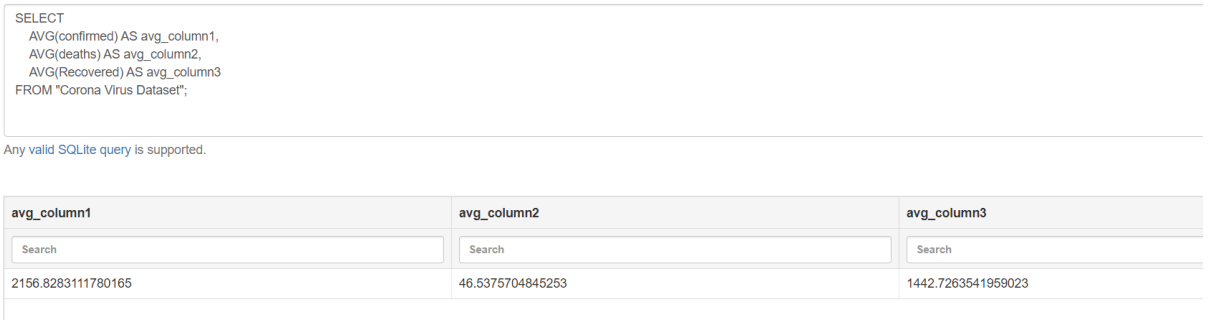
QUERY:-

```
SELECT DISTINCT Date
FROM "Corona Virus Dataset";
SELECT MIN(Date) AS earliest_start_date, MAX(Date) AS latest_end_date
FROM "Corona Virus Dataset";
```

Q5. Number of month present in dataset?



Q6. Find monthly average for confirmed, deaths, recovered?



Q7. Find most frequent value for confirmed, deaths, recovered each month?

```
SELECT Date, COUNT(*) AS frequency
FROM "Corona Virus Dataset"
GROUP BY Date
ORDER BY frequency DESC
LIMIT 1;
```

Any valid SQLite query is supported.

Date ▲	frequency
Search	Search
01-01-2021	154

Q8. Find minimum values for confirmed, deaths, recovered per year?

```
SELECT
    Date AS year,
    MIN(confirmed) AS min_confirmed,
    MIN(deaths) AS min_deaths,
    MIN(recovered) AS min_recovered
FROM "Corona Virus Dataset"
GROUP BY Date;
```

Any valid SQLite query is supported.

year	min_confirmed	min_deaths	min_recovered
Search	Search	Search	Search
01-01-2021	0	0	0
01-02-2020	0	0	0
01-02-2021	0	0	0
01-03-2020	0	0	0
01-03-2021	0	0	0
01-04-2020	0	0	0
01-04-2021	0	0	0
01-05-2020	0	0	0
01-05-2021	0	0	0
01-06-2020	0	0	0
01-06-2021	0	0	0

Q9. Find maximum values of confirmed, deaths, recovered per year?

```
SELECT
    Date AS year,
    MAX(confirmed) AS max_confirmed,
    MAX(deaths) AS max_deaths,
    MAX(recovered) AS max_recovered
FROM "Corona Virus Dataset"
GROUP BY Date;
```

Any valid SQLite query is supported.

year	max_confirmed	max_deaths	max_recovered
Search	Search	Search	Search
01-01-2021	990	97	99
01-02-2020	8	45	4
01-02-2021	984	97	95
01-03-2020	9	5	6
01-03-2021	9891	91	957
01-04-2020	96	923	99
01-04-2021	984	94	9789
01-05-2020	99	98	99
01-05-2021	930	91	970
01-06-2020	9	9	974
01-06-2021	9575	95	983

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

```
SELECT   SUM(Confirmed) AS total_confirmed,
  SUM(Deaths) AS total_deaths,
  SUM(Recovered) AS total_recovered
FROM "Corona Virus Dataset"
GROUP BY Date
ORDER BY Date;
```

Any valid SQLite query is supported.

total_confirmed	total_deaths	total_recovered
Search	Search	Search
508371	9416	258035
1529	45	35
434336	10301	252926
2361	53	2700
289970	7499	201498
80525	5937	15318
669784	11760	321647
83536	5127	35542
773832	12815	653659
88163	3342	51652
450268	14989	562762
204829	4992	107605

Q11.Check how corona virus spread out with respect to confirmed case?

```sql
WITH "Corona Virus" AS (
  SELECT
    YEAR(Date) AS year,
    MONTH(Date) AS month,
    SUM(Confirmed) AS total_confirmed,
    COUNT(DISTINCT CASE WHEN recovered IS NOT NULL THEN 1 ELSE NULL END) AS total_recovered  -- Count recovered cases (if available)
  FROM "Corona Virus"
  GROUP BY YEAR(Date), MONTH(Date)
)
SELECT
  year,
  month,
  total_confirmed,
  total_recovered,  -- Display total recovered cases (if available)
  AVG(total_confirmed) OVER (PARTITION BY year) AS avg_confirmed_per_year,
  VAR_POP(total_confirmed) OVER (PARTITION BY year) AS variance_confirmed,
  STDDEV_POP(total_confirmed) OVER (PARTITION BY year) AS stdev_confirmed
FROM "Corona Virus";
```

RUN QUERY

	year	month	total_confirmed	total_recovered	avg_confirmed_per...	variance_confirmed	stdev_confirmed
1	2021	1	"18672205"	1	14824007.5	32724564700922.92	5720538.847077513
2	2021	2	"10492664"	1	14824007.5	32724564700922.92	5720538.847077513
3	2021	3	"13924790"	1	14824007.5	32724564700922.92	5720538.847077513
4	2021	4	"21711021"	1	14824007.5	32724564700922.92	5720538.847077513
5	2021	5	"19121083"	1	14824007.5	32724564700922.92	5720538.847077513
6	2021	6	"5022282"	1	14824007.5	32724564700922.92	5720538.847077513
7	2020	1	"6384"	1	6676758.25	37524746157758.19	6125744.539054676
8	2020	2	"68312"	1	6676758.25	37524746157758.19	6125744.539054676
9	2020	3	"769236"	1	6676758.25	37524746157758.19	6125744.539054676
10	2020	4	"2336798"	1	6676758.25	37524746157758.19	6125744.539054676
11	2020	5	"2744333"	1	6676758.25	37524746157758.19	6125744.539054676
12	2020	6	"3969634"	1	6676758.25	37524746157758.19	6125744.539054676
13	2020	7	"6838092"	1	6676758.25	37524746157758.19	6125744.539054676
14	2020	8	"7694938"	1	6676758.25	37524746157758.19	6125744.539054676

Q12.Check how corona virus spread out with respect to death case per month?

```sql
SELECT date, SUM(deaths) AS total_deaths
FROM "Corona Virus Dataset"
GROUP BY date
ORDER BY date;
```

Any valid SQLite query is supported.

Date	total_deaths
Search	Search
01-01-2021	9416
01-02-2020	45
01-02-2021	10301
01-03-2020	53
01-03-2021	7499
01-04-2020	5937
01-04-2021	11760
01-05-2020	5127
01-05-2021	12815
01-06-2020	3342
01-06-2021	14989
01-07-2020	4992

Q13. Check how corona virus spread out with respect to recovered case -- (Eg.: total confirmed cases, their average, variance & STDEV)

```sql
WITH "Corona Virus" AS (
  SELECT
    YEAR(Date) AS year,
    MONTH(Date) AS month,
    SUM(Confirmed) AS total_confirmed,
    SUM(Recovered) AS total_recovered
  FROM "Corona Virus"
  GROUP BY YEAR(Date), MONTH(Date)
)
SELECT
  year,
  month,
  total_confirmed,
  AVG(total_confirmed) OVER (PARTITION BY year) AS avg_confirmed_per_year,
  VAR_POP(total_confirmed) OVER (PARTITION BY year) AS variance_confirmed,
  STDDEV_POP(total_confirmed) OVER (PARTITION BY year) AS stdev_confirmed,
  (total_recovered / total_confirmed) * 100 AS recovered_rate
FROM "Corona Virus";
```

RUN QUERY

	year	month	total_confirmed	avg_confirmed_per...	variance_confirmed	stdev_confirmed	recovered_rate
1	2021	1	"18672205"	14824007.5	32724564700922.92	5720538.847077513	"0"
2	2021	2	"10492664"	14824007.5	32724564700922.92	5720538.847077513	"0"
3	2021	3	"13924790"	14824007.5	32724564700922.92	5720538.847077513	"0"
4	2021	4	"21711021"	14824007.5	32724564700922.92	5720538.847077513	"0"
5	2021	5	"19121083"	14824007.5	32724564700922.92	5720538.847077513	"100"
6	2021	6	"5022282"	14824007.5	32724564700922.92	5720538.847077513	"100"
7	2020	1	"6384"	6676758.25	37524746157758.19	6125744.539054676	"0"
8	2020	2	"68312"	6676758.25	37524746157758.19	6125744.539054676	"0"
9	2020	3	"769236"	6676758.25	37524746157758.19	6125744.539054676	"0"
10	2020	4	"2336798"	6676758.25	37524746157758.19	6125744.539054676	"0"
11	2020	5	"2744333"	6676758.25	37524746157758.19	6125744.539054676	"0"
12	2020	6	"3969634"	6676758.25	37524746157758.19	6125744.539054676	"0"
13	2020	7	"6838092"	6676758.25	37524746157758.19	6125744.539054676	"0"
14	2020	8	"7694938"	6676758.25	37524746157758.19	6125744.539054676	"0"

Q14. Find Country having highest number of the Confirmed case ?

```sql
SELECT Province, SUM(Confirmed) AS TotalConfirmed
FROM "Corona Virus Dataset"
GROUP BY Province
ORDER BY TotalConfirmed DESC
LIMIT 1;
```

Any valid SQLite query is supported.

Province	TotalConfirmed
US	33461982

Q15. Find Country having lowest number of the death case?

```
SELECT Province, SUM(Deaths) AS TotalDeaths
FROM "Corona Virus Dataset"
GROUP BY Province
ORDER BY TotalDeaths ASC
LIMIT 1;
```

Any valid SQLite query is supported.

Province	TotalDeaths
Dominica	0

Q16. Find top 5 countries having highest recovered case ?

```
SELECT Province, SUM(Recovered) AS TotalRecovered
FROM "Corona Virus Dataset"
GROUP BY Province
ORDER BY TotalRecovered DESC
LIMIT 5;
```

Any valid SQLite query is supported.

Province	TotalRecovered
India	28089649
Brazil	15400169
US	6303715
Turkey	5202251
Russia	4745756

**********THE END**********