Task - 1 : Total Confirmed Cases

1SELECT sum(cumulative\_confirmed) as total\_cases\_worldwide

2FROM `bigquery-public-data.covid19\_open\_data.covid19\_open\_data`

3WHERE date='2020-04-15'

### Task - 2 : Worst Affected Areas

1with deaths\_by\_states as (

2

3 SELECT subregion1\_name as state, sum(cumulative\_deceased) as death\_count

4

5 FROM `bigquery-public-data.covid19\_open\_data.covid19\_open\_data`

6

7 where country\_name="United States of America" and date='2020-04-10' and subregion1\_name is NOT NULL

8

9 group by subregion1\_name

10)

11

12select count(\*) as count\_of\_states

13

14from deaths\_by\_states

15

16where death\_count > 100

### Task - 3 : Identifying Hotspots

1SELECT \* FROM (

2

3 SELECT subregion1\_name as state, sum(cumulative\_confirmed) as total\_confirmed\_cases

4

5 FROM `bigquery-public-data.covid19\_open\_data.covid19\_open\_data`

6

7 WHERE country\_code="US" AND date='2020-04-10' AND subregion1\_name is NOT NULL

8

9 GROUP BY subregion1\_name

10

11 ORDER BY total\_confirmed\_cases DESC

12)

13WHERE total\_confirmed\_cases > 1000

### Task - 4 : Fatality Ratio

1SELECT sum(cumulative\_confirmed) as total\_confirmed\_cases, sum(cumulative\_deceased) as total\_deaths, (sum(cumulative\_deceased)/sum(cumulative\_confirmed))\*100 as case\_fatality\_ratio

2

3FROM `bigquery-public-data.covid19\_open\_data.covid19\_open\_data`

4

5where country\_name="Italy" AND date BETWEEN '2020-04-01'and '2020-04-30'

### Task - 5 : Identifying specific day

1SELECT date

2

3FROM `bigquery-public-data.covid19\_open\_data.covid19\_open\_data`

4

5where country\_name="Italy" and cumulative\_deceased>10000

6

7order by date asc

8

9limit 1

### Task - 6 : Finding days with zero net new cases

1WITH india\_cases\_by\_date AS (

2

3 SELECT

4

5 date,

6

7 SUM( cumulative\_confirmed ) AS cases

8

9 FROM

10

11 `bigquery-public-data.covid19\_open\_data.covid19\_open\_data`

12

13 WHERE

14

15 country\_name ="India"

16

17 AND date between '2020-02-21' and '2020-03-15'

18

19 GROUP BY

20

21 date

22

23 ORDER BY

24

25 date ASC

26

27 )

28

29, india\_previous\_day\_comparison AS

30

31(SELECT

32

33 date,

34

35 cases,

36

37 LAG(cases) OVER(ORDER BY date) AS previous\_day,

38

39 cases - LAG(cases) OVER(ORDER BY date) AS net\_new\_cases

40

41FROM india\_cases\_by\_date

42

43)

44

45select count(\*)

46

47from india\_previous\_day\_comparison

48

49where net\_new\_cases=0

### Task - 7 : Doubling rate

1WITH us\_cases\_by\_date AS (

2

3 SELECT

4

5 date,

6

7 SUM(cumulative\_confirmed) AS cases

8

9 FROM

10

11 `bigquery-public-data.covid19\_open\_data.covid19\_open\_data`

12

13 WHERE

14

15 country\_name="United States of America"

16

17 AND date between '2020-03-22' and '2020-04-20'

18

19 GROUP BY

20

21 date

22

23 ORDER BY

24

25 date ASC

26

27 )

28

29

30

31, us\_previous\_day\_comparison AS

32

33(SELECT

34

35 date,

36

37 cases,

38

39 LAG(cases) OVER(ORDER BY date) AS previous\_day,

40

41 cases - LAG(cases) OVER(ORDER BY date) AS net\_new\_cases,

42

43 (cases - LAG(cases) OVER(ORDER BY date))\*100/LAG(cases) OVER(ORDER BY date) AS percentage\_increase

44

45FROM us\_cases\_by\_date

46

47)

48

49

50

51select Date, cases as Confirmed\_Cases\_On\_Day, previous\_day as Confirmed\_Cases\_Previous\_Day, percentage\_increase as Percentage\_Increase\_In\_Cases

52

53from us\_previous\_day\_comparison

54

55where percentage\_increase > 10

### Task - 8 : Recovery rate

1WITH cases\_by\_country AS (

2

3 SELECT

4

5 country\_name AS country,

6

7 sum(cumulative\_confirmed) AS cases,

8

9 sum(cumulative\_recovered) AS recovered\_cases

10

11 FROM

12

13 bigquery-public-data.covid19\_open\_data.covid19\_open\_data

14

15 WHERE

16

17 date = '2020-05-10'

18

19 GROUP BY

20

21 country\_name

22

23 )

24

25

26

27, recovered\_rate AS

28

29(SELECT

30

31 country, cases, recovered\_cases,

32

33 (recovered\_cases \* 100)/cases AS recovery\_rate

34

35FROM cases\_by\_country

36

37)

38

39

40

41SELECT country, cases AS confirmed\_cases, recovered\_cases, recovery\_rate

42

43FROM recovered\_rate

44

45WHERE cases > 50000

46

47ORDER BY recovery\_rate desc

48

49LIMIT 10

### Task - 9 : CDGR - Cumulative Daily Growth Rate

1WITH

2

3 france\_cases AS (

4

5 SELECT

6

7 date,

8

9 SUM(cumulative\_confirmed) AS total\_cases

10

11 FROM

12

13 `bigquery-public-data.covid19\_open\_data.covid19\_open\_data`

14

15 WHERE

16

17 country\_name="France"

18

19 AND date IN ('2020-01-24',

20

21 '2020-05-10')

22

23 GROUP BY

24

25 date

26

27 ORDER BY

28

29 date)

30

31, summary as (

32

33SELECT

34

35 total\_cases AS first\_day\_cases,

36

37 LEAD(total\_cases) OVER(ORDER BY date) AS last\_day\_cases,

38

39 DATE\_DIFF(LEAD(date) OVER(ORDER BY date),date, day) AS days\_diff

40

41FROM

42

43 france\_cases

44

45LIMIT 1

46

47)

48

49select first\_day\_cases, last\_day\_cases, days\_diff, POW((last\_day\_cases/first\_day\_cases),(1/days\_diff))-1 as cdgr

50

51from summary

### Task - 10 : Create a Datastudio report

1SELECT

2

3 date, SUM(cumulative\_confirmed) AS country\_cases,

4

5 SUM(cumulative\_deceased) AS country\_deaths

6

7FROM

8

9 `bigquery-public-data.covid19\_open\_data.covid19\_open\_data`

10

11WHERE

12

13 date BETWEEN '2020-03-15'

14

15 AND '2020-04-30'

16

17 AND country\_name ="United States of America"

18

19GROUP BY date