

# SQL Script

```
select *
```

```
from covid19;
```

```
-----
```

```
create type cases_t as object(
```

```
  dates varchar2(20),
```

```
  confirmed_count int,
```

```
  death_count int,
```

```
  recovered_count int
```

```
)
```

```
/
```

```
create type covid19_type as table of cases_t
```

```
/
```

```
create table covid19_data(
```

```
  ID int,
```

```
  country varchar2(150),
```

```
  state varchar2(150),
```

```
  lat number,
```

```
  longt number,
```

```
  cases covid19_type
```

```
)
```

```
nested table cases store as cases_table
```

```
/
```

```
drop table covid19_data;
```

```
drop type covid19_type;
```

```
drop type cases_t;
```

```
INSERT INTO covid19_data (ID, country, state, lat, longt, cases)
```

```
SELECT ID,country, state, lat, longt, covid19_type(cases_t( dates, confirm_count, death_count,  
recovered_count ))FROM covid19;
```

```
select * from covid19_data;
```

```
-----member function 01 -----
```

```
alter type cases_t add MEMBER FUNCTION patient_count return int  
CASCADE;
```

```
/
```

```
create or replace type body cases_t as
```

```
MEMBER FUNCTION patient_count return int is
```

```
in_patients_count int;
```

```
case_counts int;
```

```
BEGIN
```

```
case_counts:=(death_count + recovered_count);
```

```
in_patients_count:=confirmed_count-case_counts;
```

```
return in_patients_count;
```

```
END;
```

```
END;
```

```
/
```

```
-----to drop member function 01-----
```

```
alter type cases_t drop member function patient_count return int cascade;
```

----- OR SQL command 01 -----

```
select c.ID, c.country,c.state, t.dates, t.patient_count() as in_patient_count
from covid19_data c, table(c.cases) t
where c.country='Afghanistan' and t.dates='21-MAR-20';
```

```
select c.ID, c.country,c.state, t.dates, t.patient_count() as remaining_patient_count
from covid19_data c, table(c.cases) t
order by c.ID,c.country,c.state;
```

----- member function 02 -----

```
alter type cases_t add MEMBER FUNCTION total_confirm_count(day varchar2) return int
CASCADE;
/
```

```
CREATE or replace type BODY cases_t as
MEMBER FUNCTION total_confirm_count(day varchar2) return int is
total_confirm_count_for_day int;
BEGIN
select sum(t.confirmed_count)
into total_confirm_count_for_day
from covid19_data c, table(c.cases) t
where t.dates=day;
return total_confirm_count_for_day;
End;
END;
/
```

-----to drop member function 02-----

```
alter type cases_t drop member function total_confirm_count(day varchar2) return int cascade;
```

----- OR SQL command 02 -----

```
select distinct t.dates as required_date, t.total_confirm_count(t.dates) as total_confirm_count_for_day
from covid19_data c, table(c.cases) t
where t.dates='21-FEB-20';
```

----- member function 03 -----

```
alter type cases_t add MEMBER FUNCTION total_count_of_country(day varchar2,country_name
varchar2) return int
```

```
CASCADE;
```

```
/
```

```
CREATE or replace type BODY cases_t as
```

```
MEMBER FUNCTION total_count_of_country(day varchar2, country_name varchar2) return int is
```

```
total_count_of_a_country int;
```

```
BEGIN
```

```
select sum(t.death_count)
```

```
into total_count_of_a_country
```

```
from covid19_data c, table(c.cases) t
```

```
where t.dates=day and c.country=country_name
```

```
group by c.country;
```

```
return total_count_of_a_country;
```

```
End;
```

```
END;
```

```
/
```

-----to drop member function 03-----

```
alter type cases_t drop member function total_count_of_country(day varchar2,country_name varchar2)
return int cascade;
```

----- OR SQL command 03 -----

```
select distinct c.country, t.total_count_of_country(t.dates,c.country) as
total_death_count_of_a_country
from covid19_data c, table(c.cases) t
where t.dates='21-MAR-20'
ORDER by t.total_count_of_country(t.dates,c.country) DESC;
```

----- member function 04 -----

```
alter type cases_t add MEMBER FUNCTION total_recovered_count(day varchar2) return int
cascade;
/
```

```
CREATE OR REPLACE type body cases_t as
MEMBER FUNCTION total_recovered_count(day varchar2) return int is
total_recovered_count_for_day int;
BEGIN
select sum(t.recovered_count)
into total_recovered_count_for_day
from covid19_data c, table(c.cases) t
where t.dates=day;
return total_recovered_count_for_day;
End;
END;
/
```

-----to drop member function 04-----

```
alter type cases_t drop member function total_recovered_count(day varchar2) return int cascade;
```

----- OR SQL command 04 -----

```
select distinct t.dates as required_date , t.total_recovered_count(t.dates) as total_recovered_patients
from covid19_data c, table (c.cases) t
where t.dates='27-FEB-20';
```

----- member function 05 -----

```
alter type cases_t add MEMBER FUNCTION total_country_confirm_count(day varchar2,country_name
varchar2) return int
```

```
CASCADE;
```

```
/
```

```
CREATE or replace type BODY cases_t as
```

```
MEMBER FUNCTION total_country_confirm_count(day varchar2, country_name varchar2) return int is
```

```
total_count_of_confirmed int;
```

```
BEGIN
```

```
select sum(t.confirmed_count)
```

```
into total_count_of_confirmed
```

```
from covid19_data c, table(c.cases) t
```

```
where t.dates=day and c.country=country_name
```

```
group by c.country;
```

```
return total_count_of_confirmed;
```

```
End;
```

```
END;
```

```
/
```

-----to drop member function 05-----

```
alter type cases_t drop member function total_country_confirm_count(day varchar2,country_name  
varchar2) return int cascade;
```

----- OR SQL command 05 -----

```
select distinct c.country, t.total_country_confirm_count(t.dates,c.country) as  
total_confirmed_count_of_a_country  
from covid19_data c, table(c.cases) t  
where t.dates='21-MAR-20'  
ORDER by t.total_country_confirm_count(t.dates,c.country) DESC;
```