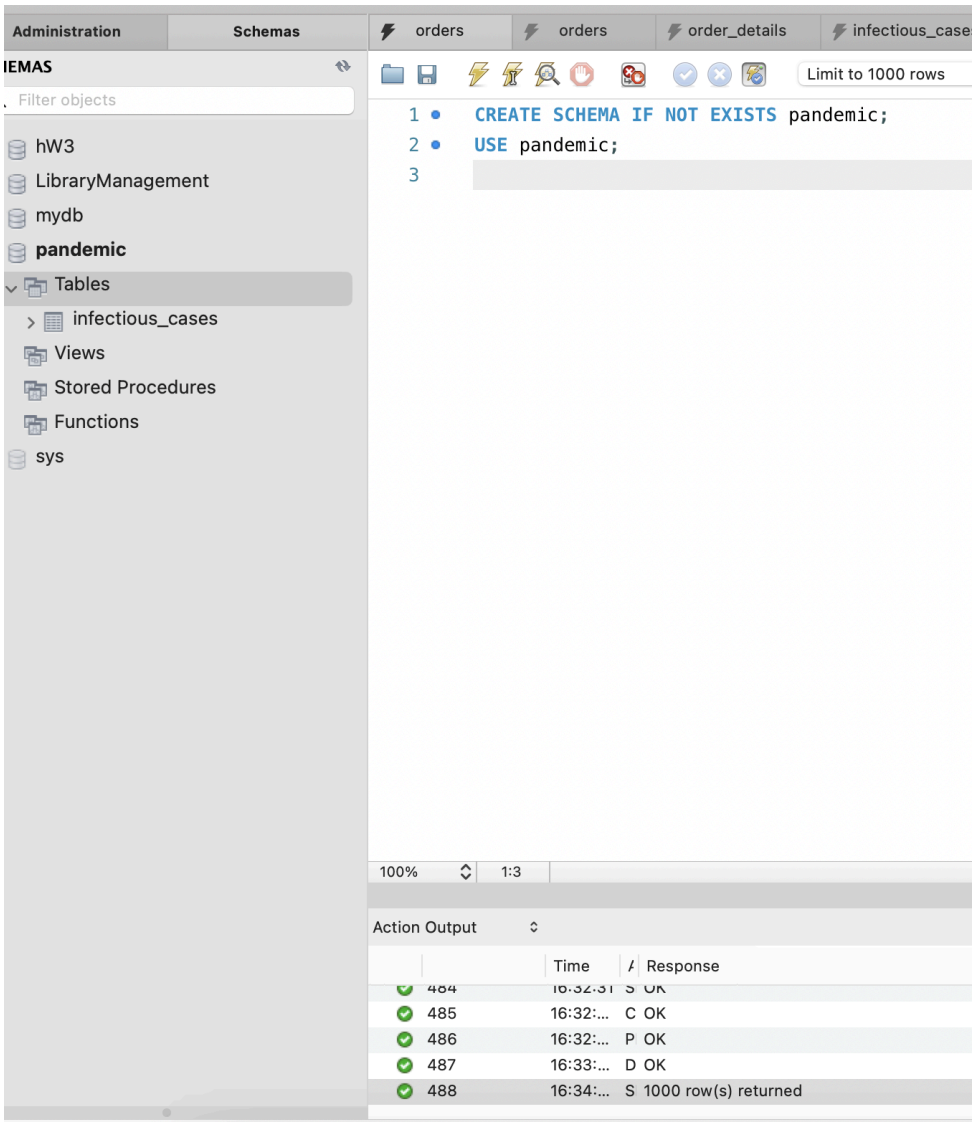
1.

CREATE SCHEMA IF NOT EXISTS pandemic;

USE pandemic;

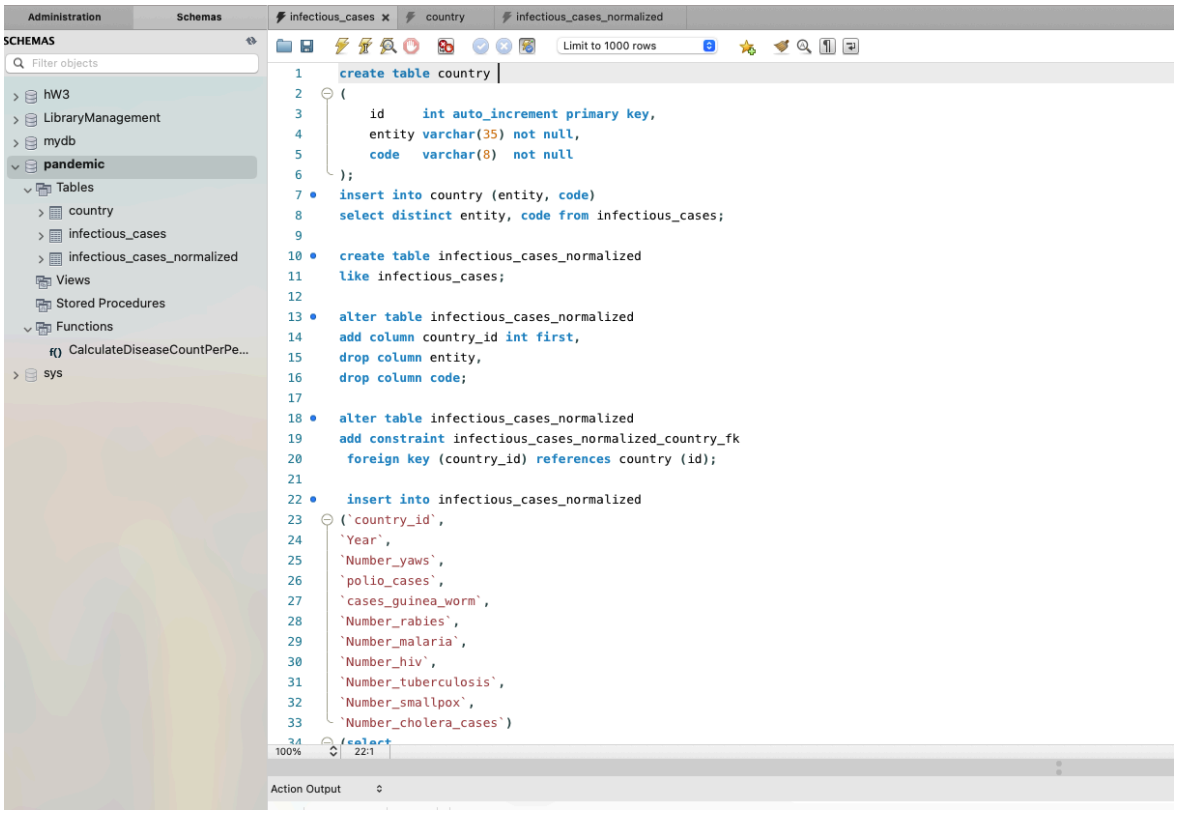


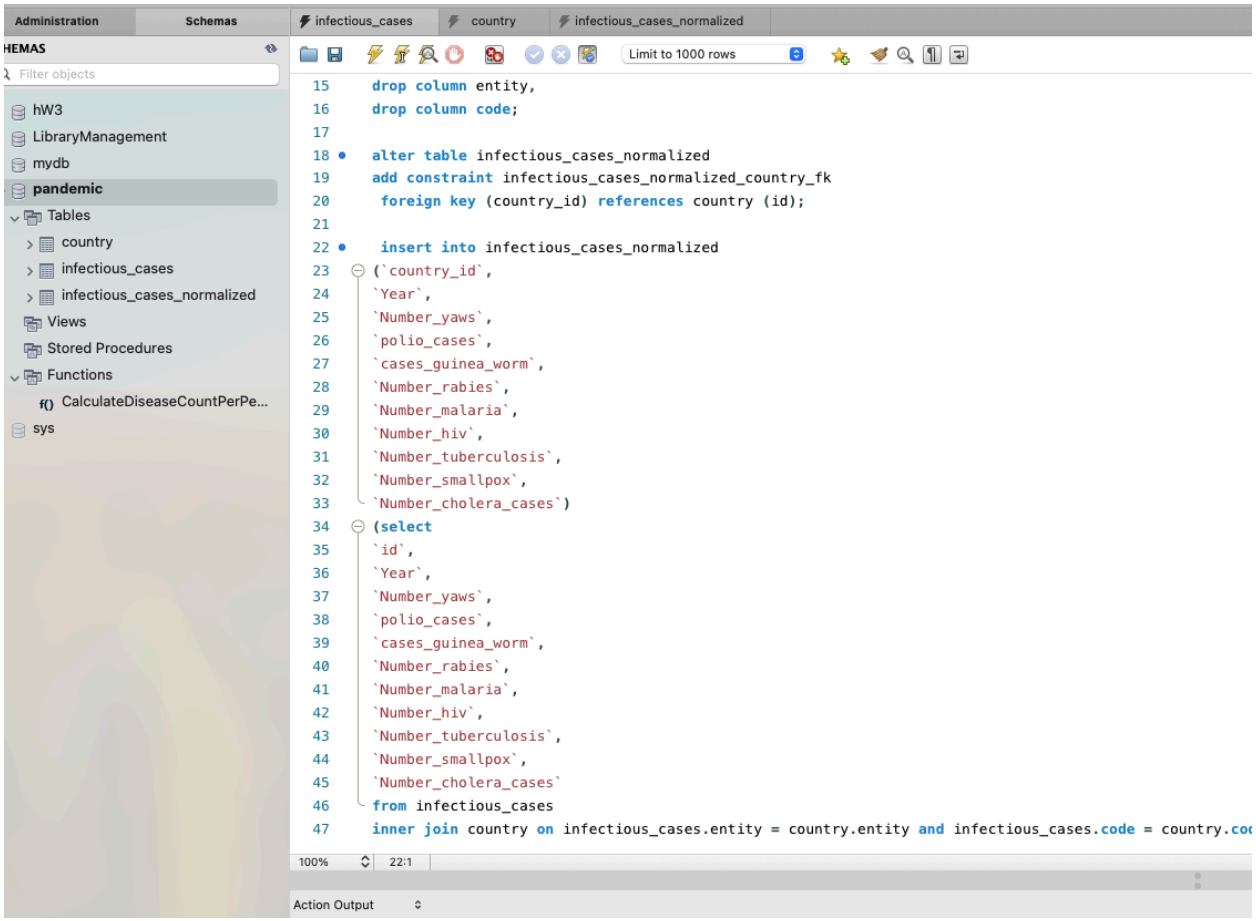
2.

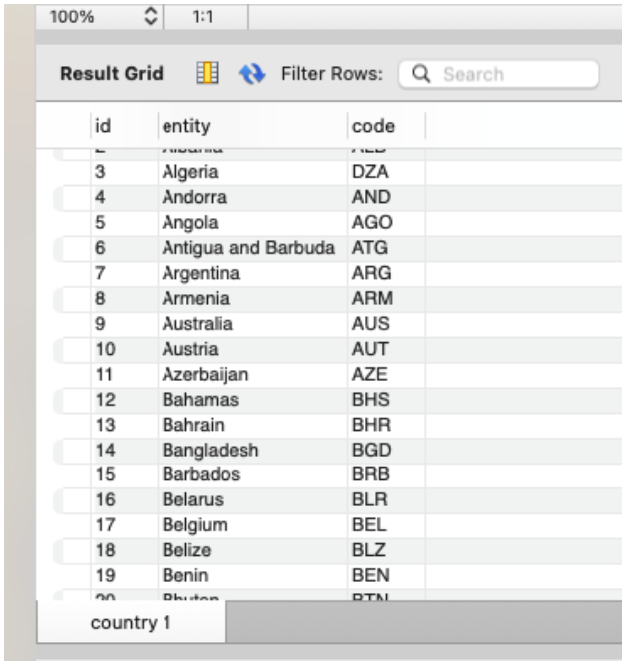
```
create table country
(
   id     int auto_increment primary key,
   entity varchar(35) not null,
   code   varchar(8)  not null
);
insert into country (entity, code)
select distinct entity, code from infectious_cases;
```

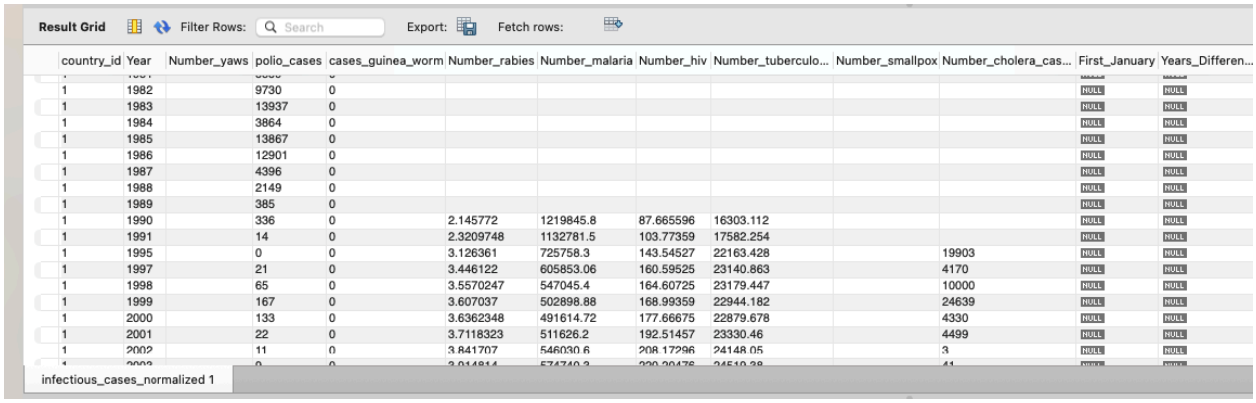
```
create table infectious_cases_normalized
like infectious_cases;

alter table infectious_cases_normalized
add column country_id int first,
drop column entity,
drop column code;

alter table infectious_cases_normalized
add constraint infectious_cases_normalized_country_fk
 foreign key (country_id) references country (id);

 insert into infectious_cases_normalized
(`country_id`,
`Year`,
`Number_yaws`,
`polio_cases`,
`cases_guinea_worm`,
`Number_rabies`,
`Number_malaria`,
`Number_hiv`,
`Number_tuberculosis`,
`Number_smallpox`,
`Number_cholera_cases`)
(select
`id`,
`Year`,
`Number_yaws`,
`polio_cases`,
`cases_guinea_worm`,
`Number_rabies`,
`Number_malaria`,
`Number_hiv`,
`Number_tuberculosis`,
```

`Number_smallpox`,
`Number_cholera_cases`
from infectious_cases
inner join country on infectious_cases.entity = country.entity and infectious_cases.code = country.code);




Administration
Schemas
infectious_cases
country
infectious_cases_normalized
HEMAS
Filter objects
hW3
LibraryManagement
mydb
pandemic
Tables
country
infectious_cases
infectious_cases_normalized
Views
Stored Procedures
Functions
CalculateDiseaseCountPerPe...
sys
Limit to 1000 rows
drop column entity,
drop column code;
alter table infectious_cases_normalized
add constraint infectious_cases_normalized_country_fk
foreign key (country_id) references country (id);
insert into infectious_cases_normalized
(`country_id`,
`Year`,
`Number_yaws`,
`polio_cases`,
`cases_guinea_worm`,
`Number_rabies`,
`Number_malaria`,
`Number_hiv`,
`Number_tuberculosis`,
`Number_smallpox`,
`Number_cholera_cases`)
(select
`id`,
`Year`,
`Number_yaws`,
`polio_cases`,
`cases_guinea_worm`,
`Number_rabies`,
`Number_malaria`,
`Number_hiv`,
`Number_tuberculosis`,
`Number_smallpox`,
`Number_cholera_cases`
from infectious_cases
inner join country on infectious_cases.entity = country.entity and infectious_cases.code = country.coc
100%
22:1
Action Output

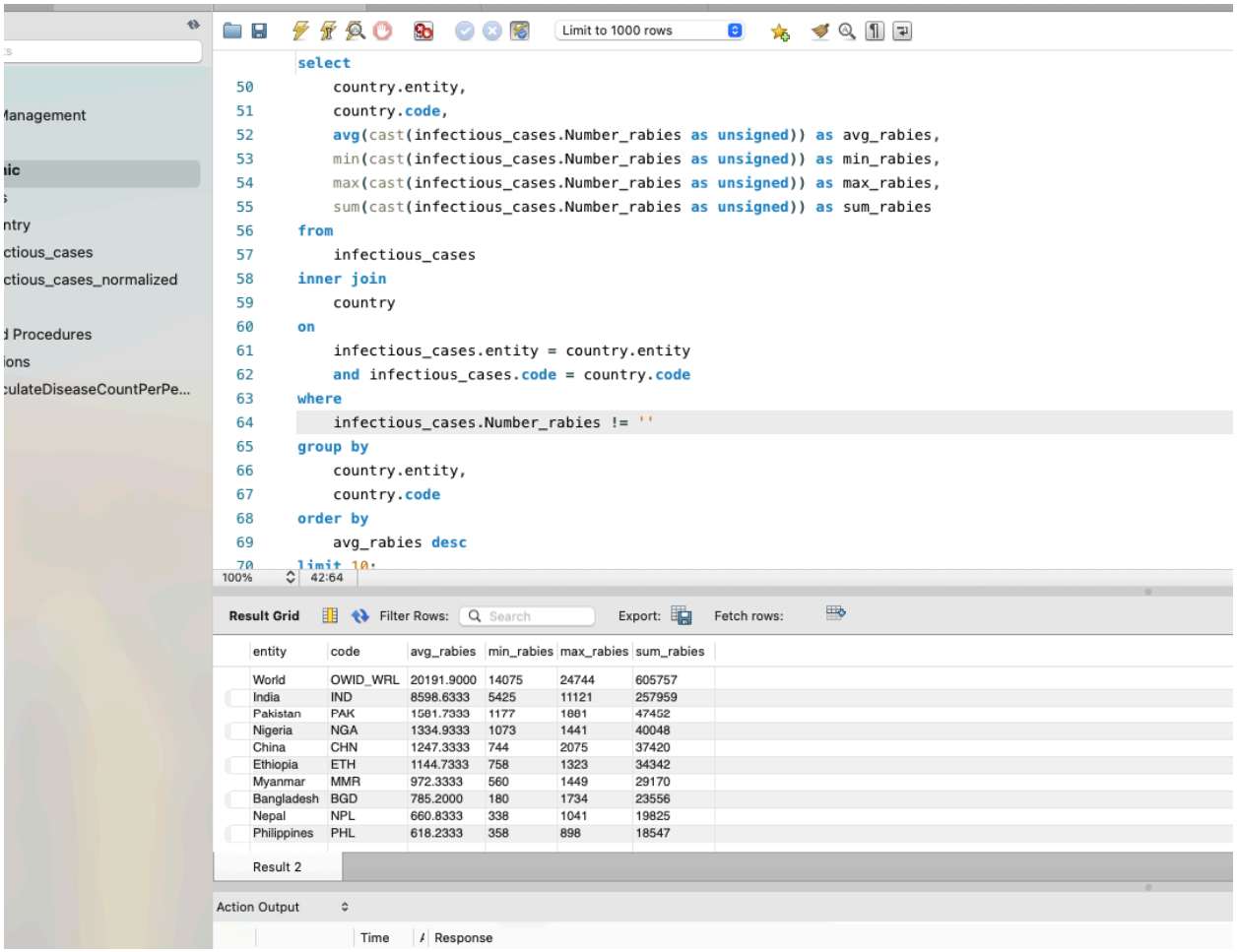

100%
1:1
Result Grid
Filter Rows:
Search
id
entity
code
3 Algeria DZA
4 Andorra AND
5 Angola AGO
6 Antigua and Barbuda ATG
7 Argentina ARG
8 Armenia ARM
9 Australia AUS
10 Austria AUT
11 Azerbaijan AZE
12 Bahamas BHS
13 Bahrain BHR
14 Bangladesh BGD
15 Barbados BRB
16 Belarus BLR
17 Belgium BEL
18 Belize BLZ
19 Benin BEN
country 1



country_id	Year	Number_yaws	polio_cases	cases_guinea_worm	Number_rabies	Number_malaria	Number_hiv	Number_tuberculo...	Number_smallpox	Number_cholera_cas...	First_January	Years_Differen...
1	1982		9730	0							NULL	NULL
1	1983		13937	0							NULL	NULL
1	1984		3864	0							NULL	NULL
1	1985		13867	0							NULL	NULL
1	1986		12901	0							NULL	NULL
1	1987		4396	0							NULL	NULL
1	1988		2149	0							NULL	NULL
1	1989		385	0							NULL	NULL
1	1990		336	0	2.145772	1219845.8	87.665596	16303.112			NULL	NULL
1	1991		14	0	2.3209748	1132781.5	103.77359	17582.254			NULL	NULL
1	1995		0	0	3.126361	725758.3	143.54527	22163.428		19903	NULL	NULL
1	1997		21	0	3.446122	605853.06	160.59525	23140.863		4170	NULL	NULL
1	1998		65	0	3.5570247	547045.4	164.60725	23179.447		10000	NULL	NULL
1	1999		167	0	3.607037	502898.88	168.99359	22944.182		24639	NULL	NULL
1	2000		133	0	3.6362348	491614.72	177.66675	22879.678		4330	NULL	NULL
1	2001		22	0	3.7118323	511626.2	192.51457	23330.46		4499	NULL	NULL
1	2002		11	0	3.841707	546030.6	208.17296	24148.05		3	NULL	NULL

3.

```
select
    country.entity,
    country.code,
    avg(cast(infectious_cases.Number_rabies as unsigned)) as avg_rabies,
    min(cast(infectious_cases.Number_rabies as unsigned)) as min_rabies,
    max(cast(infectious_cases.Number_rabies as unsigned)) as max_rabies,
    sum(cast(infectious_cases.Number_rabies as unsigned)) as sum_rabies
from
    infectious_cases
inner join
    country
on
    infectious_cases.entity = country.entity
    and infectious_cases.code = country.code
where
    infectious_cases.Number_rabies != ''
group by
    country.entity,
    country.code
order by
    avg_rabies desc
limit 10;
```



4.SELECT

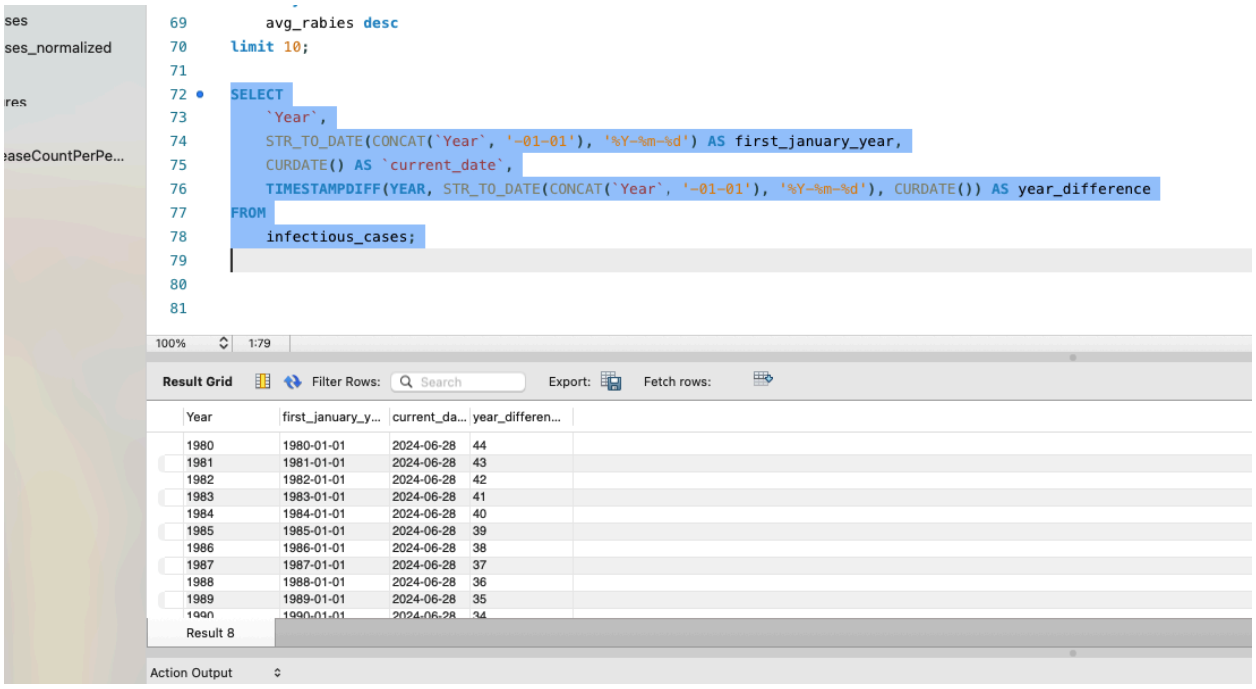
`Year`,

STR_TO_DATE(CONCAT(`Year`, '-01-01'), '%Y-%m-%d') AS first_january_year,

CURDATE() AS `current_date`,

TIMESTAMPDIFF(YEAR, STR_TO_DATE(CONCAT(`Year`, '-01-01'), '%Y-%m-%d'), CURDATE())
AS year_difference
FROM

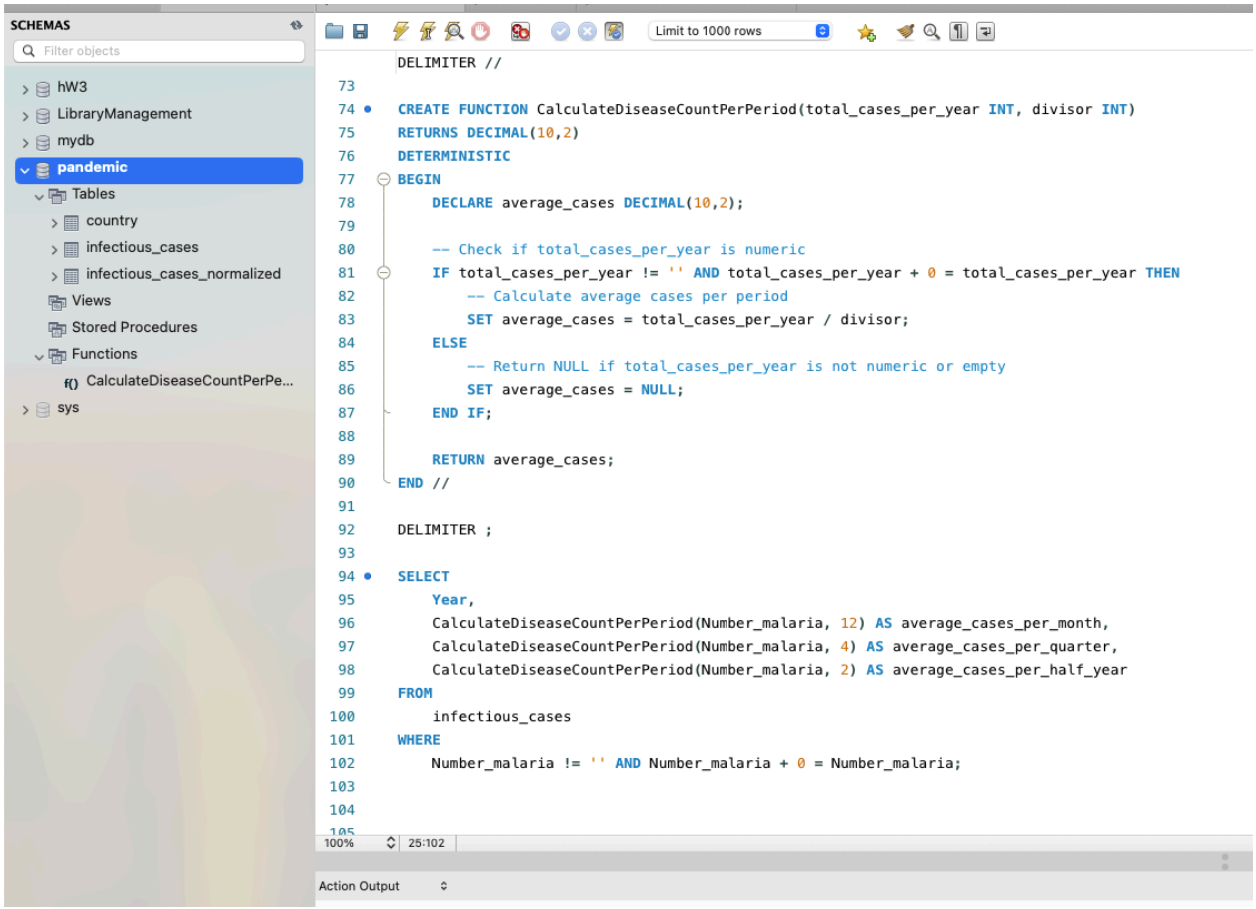
infectious_cases;

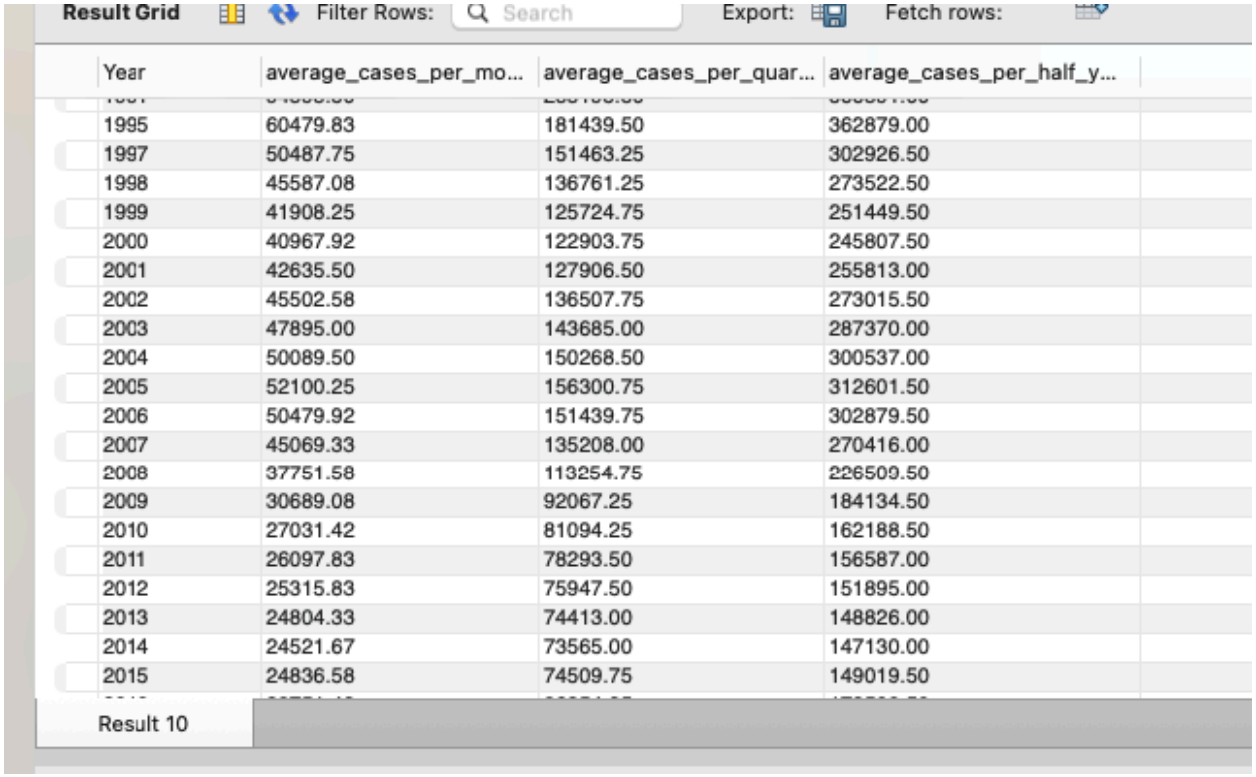


5.

```
DELIMITER //

CREATE FUNCTION CalculateDiseaseCountPerPeriod(total_cases_per_year INT, divisor INT)
RETURNS DECIMAL(10,2)
DETERMINISTIC
BEGIN
    DECLARE average_cases DECIMAL(10,2);

    -- Check if total_cases_per_year is numeric
    IF total_cases_per_year != '' AND total_cases_per_year + 0 = total_cases_per_year THEN
        -- Calculate average cases per period
        SET average_cases = total_cases_per_year / divisor;
    ELSE
        -- Return NULL if total_cases_per_year is not numeric or empty
        SET average_cases = NULL;
    END IF;

    RETURN average_cases;
END //
```

```
DELIMITER ;

SELECT
    Year,
    CalculateDiseaseCountPerPeriod(Number_malaria, 12) AS average_cases_per_month,
    CalculateDiseaseCountPerPeriod(Number_malaria, 4) AS average_cases_per_quarter,
    CalculateDiseaseCountPerPeriod(Number_malaria, 2) AS average_cases_per_half_year
FROM
    infectious_cases
WHERE
    Number_malaria != '' AND Number_malaria + 0 = Number_malaria;
```




Result Grid Filter Rows: Search Export: Fetch rows:

Year	average_cases_per_mo...	average_cases_per_quar...	average_cases_per_half_y...
1995	60479.83	181439.50	362879.00
1997	50487.75	151463.25	302926.50
1998	45587.08	136761.25	273522.50
1999	41908.25	125724.75	251449.50
2000	40967.92	122903.75	245807.50
2001	42635.50	127906.50	255813.00
2002	45502.58	136507.75	273015.50
2003	47895.00	143685.00	287370.00
2004	50089.50	150268.50	300537.00
2005	52100.25	156300.75	312601.50
2006	50479.92	151439.75	302879.50
2007	45069.33	135208.00	270416.00
2008	37751.58	113254.75	226509.50
2009	30689.08	92067.25	184134.50
2010	27031.42	81094.25	162188.50
2011	26097.83	78293.50	156587.00
2012	25315.83	75947.50	151895.00
2013	24804.33	74413.00	148826.00
2014	24521.67	73565.00	147130.00
2015	24836.58	74509.75	149019.50

Result 10