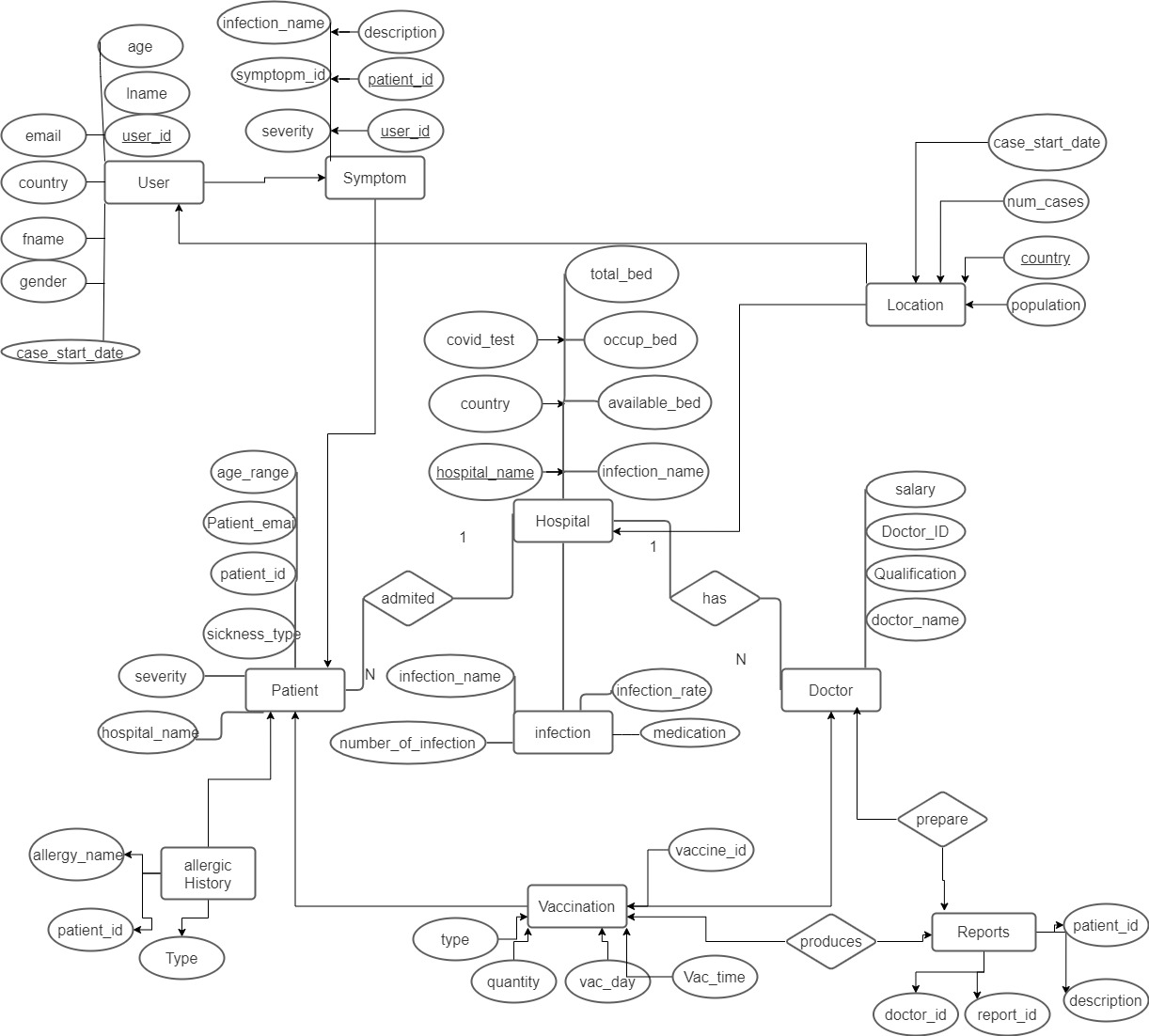
Part A - ER diagram



**Part B – Normalization**

This ERD in BCNF form you can check it by functional dependency.

So there are different Functional dependency exist.

* USER Table

User\_id 🡪lname,

User\_id 🡪fname,

User\_id 🡪gender,

User\_id 🡪age,

User\_id 🡪email,

User\_id 🡪case\_start\_date

These are the functional dependencies of User table.

* Symptom table

Symptopm\_id 🡪severity,

Symptopm\_id 🡪infection\_name,

Symptopm\_id 🡪description;

These are the functional dependencies of Symptopm table.

* Doctor table

Doctor\_ID🡪salary,

Doctor\_ID🡪Qualification,

Doctor\_ID🡪doctor\_name

* Reports Table

report\_id🡪description,

There is only one functional dependency

* Vaccination Table

Vaccine\_id🡪vac\_time,

Vaccine\_id🡪vac\_day,

Vaccine\_id🡪quantity,

Vaccine\_id🡪type,

These are the functional dependencies

* Patient table

Patient\_id🡪sickness\_type,

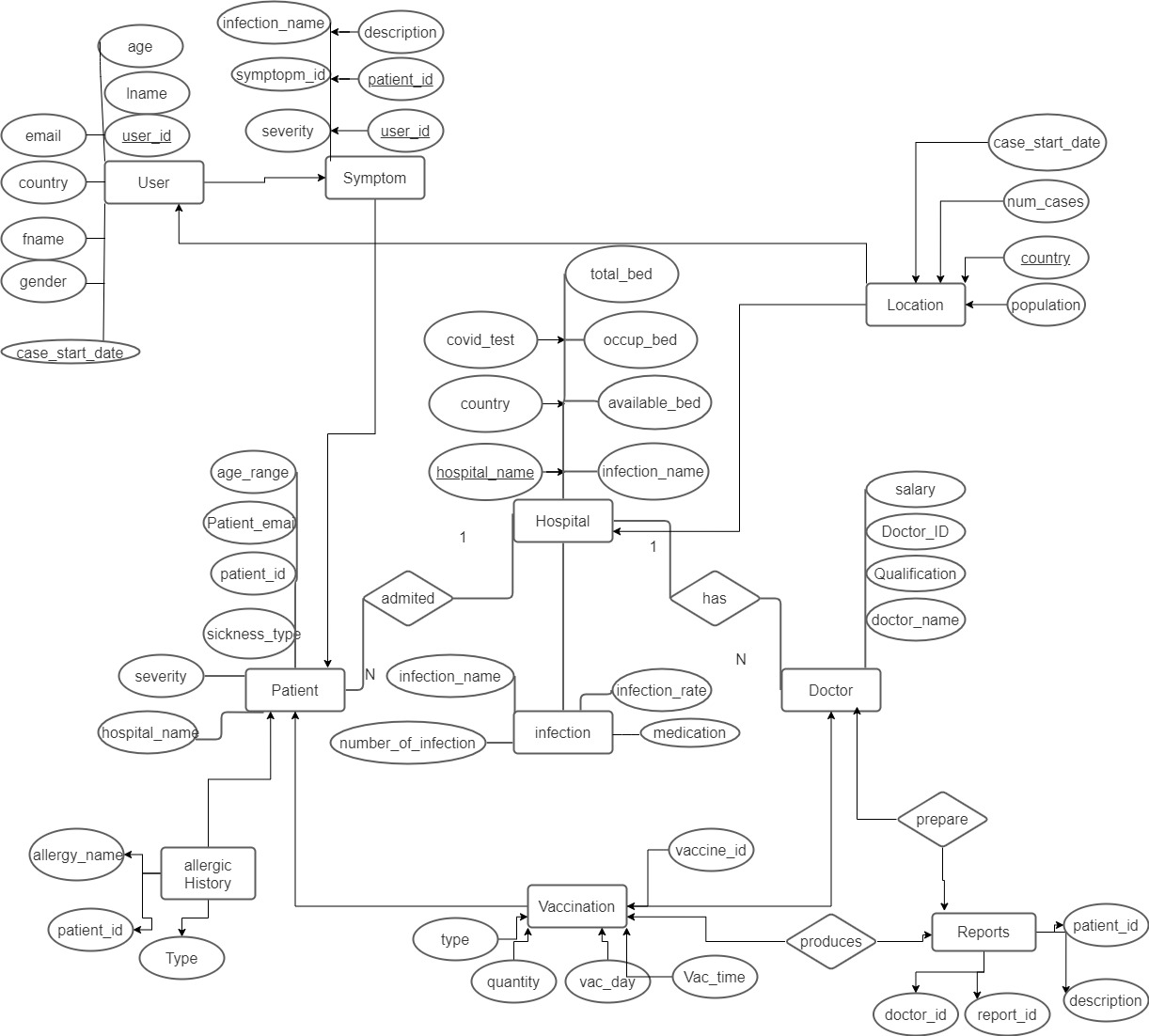
Patient\_id🡪severity,

Patient\_id🡪patient\_name,

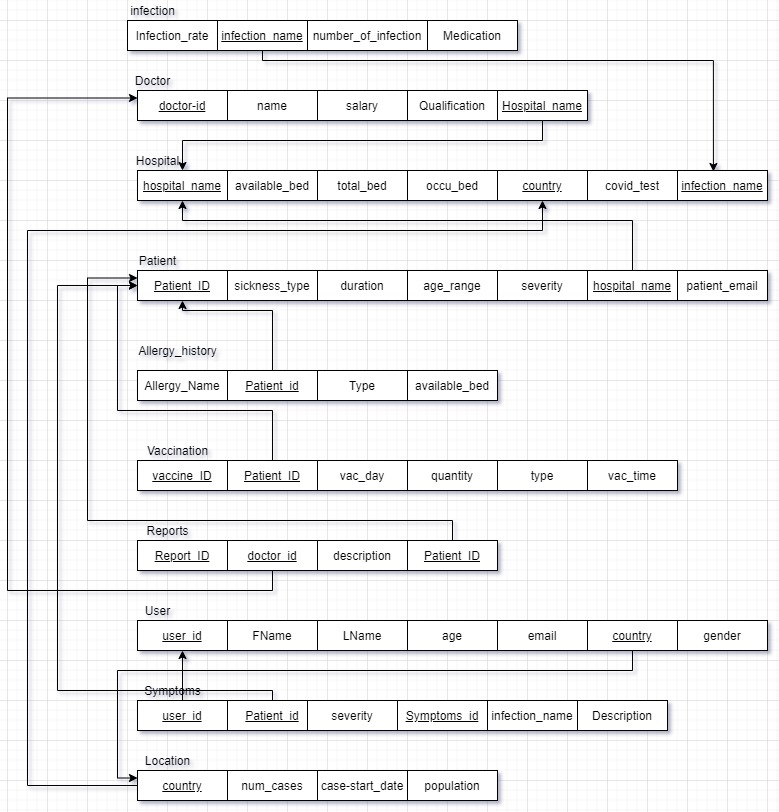
Patient\_id🡪age\_range,

These are the functional dependencies so this is in BCNF.

Part C - Revised Relational Schema



* an illustrative diagram of the relational database schema



The required SQL DDL statements for creating the database schema. Your schema

Should clearly specify all necessary integrity constraints (e.g. PRIMARY KEY, FOREIGN

KEYS, NOT NULL, etc.) For constructing your database relations. A partial requirement

For this database schema is to also include at least:

* four CHECK constraints,
* four attributes with initial default values, and
* all proper ON DELETE and ON UPDATE clauses associated with all of the defined

Foreign keys.

TASK A:

Create table Location(

country Varchar(50) NOT NULL DEFAULT 'USA',

num\_cases int(25),

case\_start\_date Date ,

Population int(50),

Primary Key(country),

);

Create table User\_info(

user\_id int(25) Not Null,

Fname Varchar(50),

Lname varchar(50),

age int(25),

gender varchar(25),

email varchar(50),

case\_start\_date Date,

country varchar(50),

Primary key (user\_id),

Foreign key (country) REFERENCES location (country) ON DELETE CASCADE,

CONSTRAINT CHK\_age CHECK (age>10)

);

create table infection(

infection\_id int (25) NOT NULL,

infection\_name varchar (50) NOT NULL DEFAULT 'CORONA',

Infection\_rate varchar (50),

Number\_of\_infection int (50),

medication varchar (50),

Primary key (infection\_id),

CONSTRAINT CHK\_infection\_rate CHECK (infection\_rate>=15)

);

CREATE TABLE Hospital (

Hospital\_name VARCHAR (50) NOT NULL,

infection\_id INT (25),

available\_bed INT (50),

Total\_bed INT(50),

occup\_bed INT(50),

covid\_test VARCHAR(25),

country VARCHAR(50),

PRIMARY KEY(Hospital\_name),

FOREIGN KEY(country) REFERENCES location(country) ON DELETE CASCADE,

FOREIGN KEY(infection\_id) REFERENCES infection(infection\_id) ON DELETE CASCADE

);

Create table patient (

patient\_id int (25) NOT NULL,

patient\_email varchar(50),

sickness\_type varchar(50) DEFAULT 'CORONA',

severity varchar(50),

Hospital\_name varchar(50),

age\_range int(25),

PRIMARY key(patient\_id),

FOREIGN key (Hospital\_name) REFERENCES hospital (Hospital\_name) ON UPDATE CASCADE

);

Create table allergic\_History (

patient\_id int(25),

allergy\_name varchar(50),

Type varchar (50),

FOREIGN key (patient\_id) REFERENCES patient (patient\_id) ) ON UPDATE CASCADE

);

Create table Vaccination (

vaccine\_id int (25) NOT NULL,

vaccine\_day Date,

Type varchar(50),

quantity int(50) DEFAULT '2',

vaccine\_time time (6),

patient\_id int (25),

Primary key (vaccine\_id),

FOREIGN key(patient\_id) REFERENCES patient(patient\_id) ) ON UPDATE CASCADE

,

CONSTRAINT CHK\_vaccine\_day CHECK (vaccine\_day!= 'Sunday')

);

Create table Reports(

report\_id int(25) NOT NULL,

description varchar(255),

patient\_id int(25),

vaccine\_id int (25),

doctor\_id int(25),

primary key(report\_id),

FOREIGN key(vaccine\_id) REFERENCES vaccination(vaccine\_id) ) ON UPDATE CASCADE,FOREIGN key(patient\_id) REFERENCES patient(patient\_id) ) ON UPDATE CASCADE,FOREIGN key(doctor\_id) REFERENCES Doctor(doctor\_id) ) ON DELETE CASCADE

);

create table Doctor(

doctor\_id int (25) NOT NULL,

doctor\_name varchar(50),

qualification varchar(50),

salary int(50),

Hospital\_name varchar(50),

primary key(doctor\_id),

FOREIGN key(Hospital\_name) REFERENCES hospital(Hospital\_name) ) ON UPDATE CASCADE,CONSTRAINT CHK\_Qualification CHECK (qualification= 'MBBS')

);

Create table Symptoms(

user\_id int(25),

patient\_id int(25),

symptoms\_id int(25) NOT NULL,

infection\_id int(25),

description varchar(255),

PRIMARY key (symptoms\_id),

FOREIGN key (patient\_id) REFERENCES patient(patient\_id) ON DELETE CASCADE,

FOREIGN key (user\_id) REFERENCES user\_info(user\_id) ON DELETE CASCADE,

FOREIGN key (infection\_id) REFERENCES infection (infection\_id) ) ON UPDATE CASCADE

);

PART C:

SQL statements for creating sample data that reflects a real-world database application.

Each relation should contain at least 10 tuples.

**LOCATION TABLE:**

INSERT INTO `location`(`country`, `num\_cases`, `case\_start\_date`, `Population`) VALUES ('USA','10','2021-02-10','100000')

INSERT INTO `location`(`country`, `num\_cases`, `case\_start\_date`, `Population`) VALUES ('italy','100','2021-02-10','100000')

INSERT INTO `location`(`country`, `num\_cases`, `case\_start\_date`, `Population`) VALUES ('japan','100','2021-02-10','100000')

INSERT INTO `location`(`country`, `num\_cases`, `case\_start\_date`, `Population`) VALUES ('pakistan','1100','2021-02-10','100000')

INSERT INTO `location`(`country`, `num\_cases`, `case\_start\_date`, `Population`) VALUES ('india','1100','2021-02-10','100000')

INSERT INTO `location`(`country`, `num\_cases`, `case\_start\_date`, `Population`) VALUES ('china','110000000','2019-02-10','100000')

INSERT INTO `location`(`country`, `num\_cases`, `case\_start\_date`, `Population`) VALUES ('iran','110000000','2019-02-10','100000000')

INSERT INTO `location`(`country`, `num\_cases`, `case\_start\_date`, `Population`) VALUES ('iraq','110000000','2019-02-10','100000000')

INSERT INTO `location`(`country`, `num\_cases`, `case\_start\_date`, `Population`) VALUES ('jordan','110000000','2019-02-10','100000000')

INSERT INTO `location`(`country`, `num\_cases`, `case\_start\_date`, `Population`) VALUES ('England','110000000','2019-02-10','100000000')

**USER\_INFO TABLE:**

INSERT INTO `user\_info`(`user\_id`, `Fname`, `Lname`, `age`, `gender`, `email`, `case\_start\_date`, `country`) VALUES ('1','jhon','wick','12','Male','jhon@gmail.com','2019-12-12','USA')

INSERT INTO `user\_info`(`user\_id`, `Fname`, `Lname`, `age`, `gender`, `email`, `case\_start\_date`, `country`) VALUES ('2','jhon2','wick2','12','Male','jhon@gmail.com','2019-12-12','USA')

INSERT INTO `user\_info`(`user\_id`, `Fname`, `Lname`, `age`, `gender`, `email`, `case\_start\_date`, `country`) VALUES ('3','jhon3','wick2','12','Male','jhon3@gmail.com','2019-12-12','England')

INSERT INTO `user\_info`(`user\_id`, `Fname`, `Lname`, `age`, `gender`, `email`, `case\_start\_date`, `country`) VALUES ('4','jhon4','wick2','12','Male','jhon3@gmail.com','2019-12-12','England')

INSERT INTO `user\_info`(`user\_id`, `Fname`, `Lname`, `age`, `gender`, `email`, `case\_start\_date`, `country`) VALUES ('5','jhon42','wick22','12','Male','jhon32@gmail.com','2019-12-12','England')

INSERT INTO `user\_info`(`user\_id`, `Fname`, `Lname`, `age`, `gender`, `email`, `case\_start\_date`, `country`) VALUES ('6','jhony','wick22','25','Male','jhon332@gmail.com','2019-12-12','England')

INSERT INTO `user\_info`(`user\_id`, `Fname`, `Lname`, `age`, `gender`, `email`, `case\_start\_date`, `country`) VALUES ('7','jhony','wick22','25','Male','jhon332@gmail.com','2019-12-12','England')

INSERT INTO `user\_info`(`user\_id`, `Fname`, `Lname`, `age`, `gender`, `email`, `case\_start\_date`, `country`) VALUES ('8','jhony','wick22','25','Male','jhon332@gmail.com','2019-12-12','England')

INSERT INTO `user\_info`(`user\_id`, `Fname`, `Lname`, `age`, `gender`, `email`, `case\_start\_date`, `country`) VALUES ('9','abraham','wick22','25','Male','abraham2@gmail.com','2019-12-12','iran')

INSERT INTO `user\_info`(`user\_id`, `Fname`, `Lname`, `age`, `gender`, `email`, `case\_start\_date`, `country`) VALUES ('10','abraham','wick22','25','Male','abraham2@gmail.com','2019-12-12','iran')

**INFECTION TABLE:**

INSERT INTO `infection`(`infection\_id`, `infection\_name`, `infection\_rate`, `Number\_of\_infection`, `medication`) VALUES ('1','Corona','10','23','4')

INSERT INTO `infection`(`infection\_id`, `infection\_name`, `infection\_rate`, `Number\_of\_infection`, `medication`) VALUES ('2','Corona','100','230','04')

INSERT INTO `infection`(`infection\_id`, `infection\_name`, `infection\_rate`, `Number\_of\_infection`, `medication`) VALUES ('3','Corona','100','23','40')

INSERT INTO `infection`(`infection\_id`, `infection\_name`, `infection\_rate`, `Number\_of\_infection`, `medication`) VALUES ('4','Corona','100','23','4')

INSERT INTO `infection`(`infection\_id`, `infection\_name`, `infection\_rate`, `Number\_of\_infection`, `medication`) VALUES ('5','Corona','140','23','5')

INSERT INTO `infection`(`infection\_id`, `infection\_name`, `infection\_rate`, `Number\_of\_infection`, `medication`) VALUES ('6','Corona','150','23','4')

INSERT INTO `infection`(`infection\_id`, `infection\_name`, `infection\_rate`, `Number\_of\_infection`, `medication`) VALUES ('7','Corona','10','23','4')

INSERT INTO `infection`(`infection\_id`, `infection\_name`, `infection\_rate`, `Number\_of\_infection`, `medication`) VALUES ('8','Corona','180','23','6')

INSERT INTO `infection`(`infection\_id`, `infection\_name`, `infection\_rate`, `Number\_of\_infection`, `medication`) VALUES ('9','Corona','120','23','9')

INSERT INTO `infection`(`infection\_id`, `infection\_name`, `infection\_rate`, `Number\_of\_infection`, `medication`) VALUES ('10','Corona','110','23','7')

**HOSPITAL TABLE:**

INSERT INTO `hospital`(`Hospital\_name`, `infection\_id`, `available\_bed`, `Total\_bed`, `occup\_bed`, `covid\_test`, `country`) VALUES ('General Hospital','1','1000','1500','500','+ve','USA')

INSERT INTO `hospital`(`Hospital\_name`, `infection\_id`, `available\_bed`, `Total\_bed`, `occup\_bed`, `covid\_test`, `country`) VALUES ('Health care Hospital','1','1000','1500','500','+ve','USA')

INSERT INTO `hospital`(`Hospital\_name`, `infection\_id`, `available\_bed`, `Total\_bed`, `occup\_bed`, `covid\_test`, `country`) VALUES ('Health care Hospital','1','1000','1500','500','+ve','USA')

INSERT INTO `hospital`(`Hospital\_name`, `infection\_id`, `available\_bed`, `Total\_bed`, `occup\_bed`, `covid\_test`, `country`) VALUES ('city Hospital','1','1000','1500','500','+ve', USA)

INSERT INTO `hospital`(`Hospital\_name`, `infection\_id`, `available\_bed`, `Total\_bed`, `occup\_bed`, `covid\_test`, `country`) VALUES (‘Health care Hospital','1','1000','1500','500','+ve', USA)

INSERT INTO `hospital`(`Hospital\_name`, `infection\_id`, `available\_bed`, `Total\_bed`, `occup\_bed`, `covid\_test`, `country`) VALUES ('head Hospital','1','1000','1500','500','-ve', ‘USA’)

INSERT INTO `hospital`(`Hospital\_name`, `infection\_id`, `available\_bed`, `Total\_bed`, `occup\_bed`, `covid\_test`, `country`) VALUES ('WWI Hospital','1','1000','1500','500','+ve',' USA ')

INSERT INTO `hospital`(`Hospital\_name`, `infection\_id`, `available\_bed`, `Total\_bed`, `occup\_bed`, `covid\_test`, `country`) VALUES ('WWI Hospital','1','1000','1500','500','+ve',' USA ')

INSERT INTO `hospital`(`Hospital\_name`, `infection\_id`, `available\_bed`, `Total\_bed`, `occup\_bed`, `covid\_test`, `country`) VALUES ('arsifHospital','1','1000','1500','500','-ve',' USA ')

INSERT INTO `hospital`(`Hospital\_name`, `infection\_id`, `available\_bed`, `Total\_bed`, `occup\_bed`, `covid\_test`, `country`) VALUES ('Health care Hospital','1','1000','1500','500','+ve',' USA’)

INSERT INTO `hospital`(`Hospital\_name`, `infection\_id`, `available\_bed`, `Total\_bed`, `occup\_bed`, `covid\_test`, `country`) VALUES ('jingoHospital','1','1000','1500','500','-ve',' USA ')

**PATIENT TABLE:**

INSERT INTO `patient`(`patient\_id`, `patient\_email`, `sickness\_type`, `severity`, `Hospital\_name`, `age\_range`) VALUES ('1','jhon@gmail.com','fever','full','city Hospital','20')

INSERT INTO `patient`(`patient\_id`, `patient\_email`, `sickness\_type`, `severity`, `Hospital\_name`, `age\_range`) VALUES ('2','jhon1@gmail.com','fever','full','city Hospital','20')

INSERT INTO `patient`(`patient\_id`, `patient\_email`, `sickness\_type`, `severity`, `Hospital\_name`, `age\_range`) VALUES ('3','jhon2@gmail.com','fever','full','city Hospital','30')

INSERT INTO `patient`(`patient\_id`, `patient\_email`, `sickness\_type`, `severity`, `Hospital\_name`, `age\_range`) VALUES ('4','jhon@gmail.com','pain in head','full','city Hospital','20')

INSERT INTO `patient`(`patient\_id`, `patient\_email`, `sickness\_type`, `severity`, `Hospital\_name`, `age\_range`) VALUES ('5','jhon@gmail.com','fever','full','city Hospital','400')

INSERT INTO `patient`(`patient\_id`, `patient\_email`, `sickness\_type`, `severity`, `Hospital\_name`, `age\_range`) VALUES ('6','jhon@gmail.com','fever','full','city Hospital','20')

INSERT INTO `patient`(`patient\_id`, `patient\_email`, `sickness\_type`, `severity`, `Hospital\_name`, `age\_range`) VALUES ('7','jhon@gmail.com','fever','full','general Hospital','20')

INSERT INTO `patient`(`patient\_id`, `patient\_email`, `sickness\_type`, `severity`, `Hospital\_name`, `age\_range`) VALUES ('8','jhon@gmail.com','fever','full','city Hospital','20')

INSERT INTO `patient`(`patient\_id`, `patient\_email`, `sickness\_type`, `severity`, `Hospital\_name`, `age\_range`) VALUES ('9','jhon@gmail.com','fever','full','city Hospital','20')

INSERT INTO `patient`(`patient\_id`, `patient\_email`, `sickness\_type`, `severity`, `Hospital\_name`, `age\_range`) VALUES ('10','jhon@gmail.com','fever','full','arif Hospital','20')

**DOCTOR TABLE:**

INSERT INTO `doctor`(`doctor\_id`, `doctor\_name`, `qualification`, `salary`, `Hospital\_name`) VALUES ('1','ahmad','MBBS','1000$','city Hospital')

INSERT INTO `doctor`(`doctor\_id`, `doctor\_name`, `qualification`, `salary`, `Hospital\_name`) VALUES ('2','ahmadali','MBBS','1000$','city Hospital')

INSERT INTO `doctor`(`doctor\_id`, `doctor\_name`, `qualification`, `salary`, `Hospital\_name`) VALUES ('3','ahmadfarooq','MBBS','1000$','city Hospital')

INSERT INTO `doctor`(`doctor\_id`, `doctor\_name`, `qualification`, `salary`, `Hospital\_name`) VALUES ('4','ahmad jamal','MBBS','1000$','general Hospital')

INSERT INTO `doctor`(`doctor\_id`, `doctor\_name`, `qualification`, `salary`, `Hospital\_name`) VALUES ('5','ahmad usman','MBBS','1000$','city Hospital')

INSERT INTO `doctor`(`doctor\_id`, `doctor\_name`, `qualification`, `salary`, `Hospital\_name`) VALUES ('6','ahmad furqan','MBBS','1000$','city Hospital')

INSERT INTO `doctor`(`doctor\_id`, `doctor\_name`, `qualification`, `salary`, `Hospital\_name`) VALUES ('7','ahmad misbah','MBBS','1000$','arif Hospital')

INSERT INTO `doctor`(`doctor\_id`, `doctor\_name`, `qualification`, `salary`, `Hospital\_name`) VALUES ('8','ahmad umer','MBBS','1000$','city Hospital')

INSERT INTO `doctor`(`doctor\_id`, `doctor\_name`, `qualification`, `salary`, `Hospital\_name`) VALUES ('9','ahmad ali','MBBS','1000$','city Hospital')

INSERT INTO `doctor`(`doctor\_id`, `doctor\_name`, `qualification`, `salary`, `Hospital\_name`) VALUES ('10','usman ahmad','MBBS','1000$','city Hospital')

ALLERGIC\_HISTORY TABLE

**ALLERGIC HISTORY TABLE:**

INSERT INTO `allergic\_history`(`patient\_id`, `allergy\_name`, `Type`) VALUES ('1','Allergic rhinitis','c')

INSERT INTO `allergic\_history`(`patient\_id`, `allergy\_name`, `Type`) VALUES ('2','Allergic rhinitis','B')

INSERT INTO `allergic\_history`(`patient\_id`, `allergy\_name`, `Type`) VALUES ('3','Allergic rhinitis','c')

INSERT INTO `allergic\_history`(`patient\_id`, `allergy\_name`, `Type`) VALUES ('4','Allergic rhinitis','A')

INSERT INTO `allergic\_history`(`patient\_id`, `allergy\_name`, `Type`) VALUES ('5','Allergic rhinitis','c')

INSERT INTO `allergic\_history`(`patient\_id`, `allergy\_name`, `Type`) VALUES ('6','Allergic rhinitis','c')

INSERT INTO `allergic\_history`(`patient\_id`, `allergy\_name`, `Type`) VALUES ('7','Allergic rhinitis','B')

INSERT INTO `allergic\_history`(`patient\_id`, `allergy\_name`, `Type`) VALUES ('8','Allergic rhinitis','c')

INSERT INTO `allergic\_history`(`patient\_id`, `allergy\_name`, `Type`) VALUES ('9','Allergic rhinitis','A')

INSERT INTO `allergic\_history`(`patient\_id`, `allergy\_name`, `Type`) VALUES ('10','Allergic rhinitis','c')

**VACCINATION TABLE:**

INSERT INTO `vaccination`(`vaccine\_id`, `vaccine\_day`, `Type`, `quantity`, `vaccine\_time`, `patient\_id`) VALUES ('1','20-1-2020','C','2 tablet','11','1')

INSERT INTO `vaccination`(`vaccine\_id`, `vaccine\_day`, `Type`, `quantity`, `vaccine\_time`, `patient\_id`) VALUES ('3','20-10-2020','C','3 tablet','11','3')

INSERT INTO `vaccination`(`vaccine\_id`, `vaccine\_day`, `Type`, `quantity`, `vaccine\_time`, `patient\_id`) VALUES ('2','20-1-2020','C','2 tablet','11','4')

INSERT INTO `vaccination`(`vaccine\_id`, `vaccine\_day`, `Type`, `quantity`, `vaccine\_time`, `patient\_id`) VALUES ('4','20-11-2020','C','2 tablet','11','1')

INSERT INTO `vaccination`(`vaccine\_id`, `vaccine\_day`, `Type`, `quantity`, `vaccine\_time`, `patient\_id`) VALUES ('5','20-10-2020','C','5 tablet','11','8')

INSERT INTO `vaccination`(`vaccine\_id`, `vaccine\_day`, `Type`, `quantity`, `vaccine\_time`, `patient\_id`) VALUES ('6','20-1-2020','C','2 tablet','11','1')

INSERT INTO `vaccination`(`vaccine\_id`, `vaccine\_day`, `Type`, `quantity`, `vaccine\_time`, `patient\_id`) VALUES ('7','20-1-2020','C','2 tablet','11','5')

INSERT INTO `vaccination`(`vaccine\_id`, `vaccine\_day`, `Type`, `quantity`, `vaccine\_time`, `patient\_id`) VALUES ('8','20-12-2020','C','4 tablet','11','1')

INSERT INTO `vaccination`(`vaccine\_id`, `vaccine\_day`, `Type`, `quantity`, `vaccine\_time`, `patient\_id`) VALUES ('9','20-11-2020','C','2 tablet','11','4')

INSERT INTO `vaccination`(`vaccine\_id`, `vaccine\_day`, `Type`, `quantity`, `vaccine\_time`, `patient\_id`) VALUES ('10','20-11-2020','C','4 tablet','11','7')

**REPORTS TABLE:**

INSERT INTO `reports`(`report\_id`, `description`, `patient\_id`, `vaccine\_id`, `doctor\_id`) VALUES ('1','Health report ','1','1','1')

INSERT INTO `symptoms`(`user\_id`, `patient\_id`, `symptoms\_id`, `infection\_id`, `description`) VALUES ('1','1','1','1',' Fever')

INSERT INTO `symptoms`(`user\_id`, `patient\_id`, `symptoms\_id`, `infection\_id`, `description`) VALUES ('1','1','2','1',' Fever')

INSERT INTO `symptoms`(`user\_id`, `patient\_id`, `symptoms\_id`, `infection\_id`, `description`) VALUES ('3','1','3','8',' Fever')

INSERT INTO `symptoms`(`user\_id`, `patient\_id`, `symptoms\_id`, `infection\_id`, `description`) VALUES ('1','5','4','1',' Fever')

INSERT INTO `symptoms`(`user\_id`, `patient\_id`, `symptoms\_id`, `infection\_id`, `description`) VALUES ('2','1','5','1',' Fever')

INSERT INTO `symptoms`(`user\_id`, `patient\_id`, `symptoms\_id`, `infection\_id`, `description`) VALUES ('1','1','6','9',' Fever')

INSERT INTO `symptoms`(`user\_id`, `patient\_id`, `symptoms\_id`, `infection\_id`, `description`) VALUES ('1','6','7','1',' Fever')

INSERT INTO `symptoms`(`user\_id`, `patient\_id`, `symptoms\_id`, `infection\_id`, `description`) VALUES ('1','1','8','1',' Fever')

INSERT INTO `symptoms`(`user\_id`, `patient\_id`, `symptoms\_id`, `infection\_id`, `description`) VALUES ('2','1','9','1',' Fever')

INSERT INTO `symptoms`(`user\_id`, `patient\_id`, `symptoms\_id`, `infection\_id`, `description`) VALUES ('1','4','10','7',' Fever')

PART C:

Ten non-trivial SQL Queries. Ensure that proper documentation is provided for each

query including a

query (a) number, (b) purpose and (c) summary of the expected result

**QUERY 1:**

SELECT

t1.Hospital\_name,

t1.available\_bed,

t2.patient\_email,

t3.allergy\_name

FROM

hospital t1

JOIN patient t2 ON

t1.Hospital\_name = t2.Hospital\_name

JOIN allergic\_history t3 ON

t3.patient\_id = t2.patient\_id

**PURPOSE:**

This query is use to fetch the data from hospital, patient table and allergic\_history tables, also it use joins.

**Expected Output:**

This query return the data of Hospital name , availabl beds,patient email,allergy name from three tables on basis of primary and foreign keys.

**QUERY 2:**

SELECT

Hospital\_name

FROM

hospital

WHERE

Hospital\_name IN (

SELECT

Hospital\_name

FROM

patient

WHERE

patient\_id = ANY (

SELECT

Patient\_id

FROM

allergic\_history

)

)

**PURPOSE:**

This query is use to fetch Hospital name from hospital table that hospital name in patient table using Nested query.

**Expected Output:**

It will return the Hospital Name that exists in patient table where patient\_id exist in allergy table.

**QUERY 3:**

SELECT

vaccine\_day,

vaccine\_time,

TYPE,

quantity

FROM

vaccination t1

WHERE

quantity IN (

SELECT

MAX (t2.quantity)

FROM

vaccination t2

WHERE

t1.vaccine\_id = t2.vaccine\_id

GROUP BY

t2.vaccine\_id

)

ORDER BY

vaccine\_id,

vaccine\_time;

**PURPOSE:**

The purpose of this query to use Aggregate function and IN operator, also use order by and Group By clauses.This query is use to fetch vaccine\_day, vaccine\_time, TYPE, quantity, from vaccination of maximum quantity.

**Expected Output:**

It will return the Hospital Name that exists in patient table where patient\_id exist in allergy table.

**QUERY 4:**

SELECT

t1.patient\_id,

t2.allergy\_name

FROM

patient t1

FULL OUTER JOIN allergic\_history t2 ON

t1.patient\_id = t2.patient\_id

**PURPOSE:**

This query is use to fetch patient\_id and allergic using FULL OUTER JOINS.

**Expected Output:**

It shows the patient\_id and allergy\_name it show all data that have same primary key and foreigh key

**QUERY 5:**

SELECT

patient\_id,

sickness\_type

FROM

patient

UNION

SELECT

patient\_id,

allergy\_name

FROM

allergic\_history

**PURPOSE:**

This query is use to fetch patient\_id and sickness\_type using the UNION

**Expected Output:**

It shows the patient\_id and sickness\_type it show all data that have same primary key and and also return the UNION of both tables

**QUERY 6:**

SELECT

patient.patient\_id,

allergic\_history.allergy\_name

FROM

patient,

allergic\_history

WHERE

patient.patient\_id = allergic\_history.patient\_id

**PURPOSE:**

This query is use to fetch patient\_id and allergy\_name where patient.patient\_id = allergic\_history.patient\_id.

**Expected Output:**

It shows the patient\_id and and all allergy name from patient and allergic history table using cross product.

**QUERY 7:**

SELECT

doctor.doctor\_name,

hospital.Hospital\_name

FROM

doctor,

hospital

WHERE

doctor.Hospital\_name = hospital.Hospital\_name

GROUP BY

doctor.doctor\_name,

hospital.Hospital\_name;

**PURPOSE:**

This query is use to fetch Doctor and hospital records using cross product of doctor table and hospital table .

**Expected Output:**

It shows the Doctor and Hospital all Records using cross product of both tables..

**QUERY 8:**

SELECT

Vaccination.vac\_day,

Patient.duration

FROM

Vaccination,

Patient

WHERE

Vaccination.Patient\_ID=Patient.Patient\_ID

GROUP BY

Vaccination.vac\_day

ORDER BY

Vaccination.vac\_day,

Patient.duration

**PURPOSE:**

This query is use to fetch data from vaccination and patient table cross product and group by clause and order by

**Expected Output:**

It shows the vaccination day and duration of patient that he stay in hospital.

**QUERY 9:**

SELECT

t1.Hospital\_name,

t1.Total\_bed,

t1.occup\_bed,

t2.doctor\_name,

t3.report\_id,

t3.description

FROM

hospital t1

LEFT JOIN doctor t2 ON

t1.Hospital\_name = t2.Hospital\_name

LEFT JOIN reports t3 ON

t2.doctor\_id = t3.doctor\_id

**PURPOSE:**

This query is use to fetch the records of more than three tables using left join.

**Expected Output:**

This query show us the data of Hospital , doctor and reports table, using let join.it shows Hospital\_name,Total\_bed, occup\_bed, from hospital table doctor\_name, from doctor table,.report\_id,AND description from reports table.

**QUERY 10:**

SELECT

t1.Hospital\_name,

t1.Total\_bed,

t1.occup\_bed,

(

SELECT

COUNT (\*)

FROM

doctor t2

WHERE

t2.Hospital\_name = t1.Hospital\_name

) AS totalNumber,

(

SELECT

COUNT (\*)

FROM

reports t3

WHERE

t3.doctor\_id IN(

SELECT

GROUP\_CONCAT(doctor\_id)

FROM

doctor

WHERE

doctor.Hospital\_name = t1.Hospital\_name

)

) AS follow\_count

FROM

hospital AS t1

ORDER BY

follow\_count

DESC

,

totalNumber

DESC

**PURPOSE:**

This query is use to fetch the records of more than three tables and also this query is use to fetch records using nested queries.

**Expected Output:**

This query show us the data of Hospital , doctor and reports table, using nested queries.it shows Hospital\_name,Total\_bed, occup\_bed, from hospital table on the basis of other tables.

Part E - Project Documentation and Final Report Introduction

Objectives and scope of the project

Bonus - Cloud Platform Deployment

**database URL:**

[**http://35.231.112.152/phpmyadmin/**](http://35.231.112.152/phpmyadmin/)

**username:root**

**password:AKR4KwRiLr99UV**

**URLS**

**http://35.231.112.152/Project/-->HOME**

**http://35.231.112.152/Project/covid\_test\_center.php---->COVID TEST CENTER**

**http://35.231.112.152/Project/symptoms.php---->SYMPTOMS**

**http://35.231.112.152/Project/location.php?id=1---->LOCATION PAGE**