

## Database Project

### Functional dependency

#### 1)Room:-

<u>Room_id</u>	Room_No	Room_type

{Room\_id} => {Room\_no} Functional Dependency Exist

{Room\_id} => {Room\_type} Functional Dependency Exist

{Room\_id} => {Room cost} Functional Dependency Exist

Relation :( Room\_id, Room\_No, Room\_type)

Full Functional Dependencies:

{Room\_id} => {Room\_no}

{Room\_id} => {Room\_type}

1NF:- Attributes do not have sub attributes.

So the relation is in 1NF.

2NF:- Every non primary key is Fully Functional Dependent on the primary key.

So the relation is in 2NF.

3NF:- No chain Exists.

So the relation is in 3NF.

BCNF:- No part of the primary key is Fully Functional Dependent on the non primary keys.

So the relation is in BCNF.

#### 2)Stay Table:-

This is a junction table between Patient,Admin & Room tables.

<u>Patient_id</u>	<u>Room_id</u>	<u>Admin_id</u>	Date	Time

Full Functional Dependencies:

{Admin\_id} => {Room\_id} Functional Dependency Exist

{Admin\_id} => {Time} Functional Dependency Exist

{Admin\_id} => {Date} Functional Dependency Exist

{Admin\_id} => {Patient\_id} Functional Dependency Exist

Relation :

( Admin\_id, Patient\_id,Room\_id,Date,Time)

1NF:- Attributes do not have sub attributes.

So the relation is in 1NF.

2NF:- Every non primary key is Fully Functional Dependent on the primary key.

So the relation is in 2NF.

3NF:- No chain Exists.

So the relation is in 3NF.

BCNF:- No part of the primary key is Fully Functional Dependent on the non primary keys.

So the relation is in BCNF.

### **3)Medical Record Table :-**

This is a junction table between Patient & Doctor tables.

<u>Medical record id</u>	Doctor_id	Date	Patient_id	time

Full Functional Dependencies:

{Medical record\_id}=> {Doc\_id} Functional Dependency Exist

{Medical record\_id}=> {Pat\_id} Functional Dependency Exist

{Medical record\_id}=> {Date, Time} Functional Dependency Exist

Relation :

( Medical record\_id, Doctor\_id,email,Date,Patient\_id,time)

1NF:- Attributes do not have sub attributes. So the relation is in 1NF.

2NF:- Every non primary key is Fully Functional Dependent on the primary key. So the relation is in 2NF.

3NF:- No chain Exists. So the relation is in 3NF.

BCNF:- No part of the primary key is Fully Functional Dependent on the non primary keys. So the relation is in BCNF

#### **4)Doctor Table:-**

<u>Doctor_id</u>	Doctor_name	Age	Address	email

{Doctor\_id} => {Doctor\_name} Functional Dependency Exist.

{Doctor\_id} => {Age} Functional Dependency Exists.

{Doctor\_id} => {Address }Functional Dependency Exists.

{Doctor\_id} => {email }Functional Dependency Exists.

Relation : ( Doctor\_id, Doctor\_name,email,Age,Address)

Full Functional Dependency:

{Doctor\_id} => {Doctor\_name}

{Doctor\_id} => {Age}

{Doctor\_id} => {Address}

{Doctor\_id} => {email}

1NF:- Attributes do not have sub attributes. So the relation is in 1NF.

2NF:- Every non primary key is Fully Functional Dependent on the primary key. So the relation is in 2NF

3NF:- No chain Exists. So the relation is in 3NF.

BCNF:- No part of the primary key is Fully Functional Dependent on the non primary key. So the relation is in BCNF.

#### **5)Admin Table:-**

<u>Admin_id</u>	Admin_name	Age	Address

{Admin\_id} => {Admin\_name} Functional Dependency Exist.

{Admin\_id} => {Age} Functional Dependency Exist.

{Admin\_id} => {Address } total Functional Dependency Exist.

Different Address do not correspond to the same Admin\_id.

Relation :

( Admin\_id, Admin\_name, Age, Address)

Full Functional Dependency:

{Admin\_id} => {Admin\_name}

{Admin\_id} => {Age} ]

{Admin\_id} => {Address}

1NF:- Attributes do not have sub attributes. So the relation is in 1NF.

2NF:- Every non primary key is Fully Functional Dependent on the primary key. So the relation is in 2NF

3NF:- No chain Exists. So the relation is in 3NF.

#### **6)Speciality:-**

<u>Specialty_id</u>	Specialty_name

{Specialty\_id} => {Specialty\_name} Functional Dependency Exist.

Relation :

( Specialty\_id, Specialty\_name)

Full Functional Dependency:

{Specialty\_id} => {Specialty\_name}

1NF:- Attributes do not have sub attributes. So the relation is in 1NF.

2NF:- Every non primary key is Fully Functional Dependent on the primary key. So the relation is in 2NF

3NF:- No chain Exists. So the relation is in 3NF

### **7)Appointment:-**

<u>Appointment_id</u>	Patient_id	Doctor_id	Date	Time

Full Functional Dependencies:

{Appointment\_id} => {Patient\_id} Functional Dependency Exist

{Appointment\_id} => {Doctor\_id} Functional Dependency Exist

{Appointment\_id} => {Time} Functional Dependency Exist

{Appointment\_id} => {Date} Functional Dependency Exist

Relation :

( Appointment\_id, Patient\_id,Doctor\_id,Time,Date)

1NF:- Attributes do not have sub attributes. So the relation is in 1NF.

2NF:- Every non primary key is Fully Functional Dependent on the primary key. So the relation is in 2NF.

3NF:- No chain Exists. So the relation is in 3NF.

BCNF:- No part of the primary key is Fully Functional Dependent on the non primary keys. So the relation is in BCNF.

### **8) Patient Table:-**

<u>Patient_id</u>	Patient_name	email	gender	Address	Age

{Patient\_id } => {Patient\_name} Functional Dependency Exist.

{Patient\_id } => {Age} Functional Dependency Exists.

{Patient\_id } => {email }Functional Dependency Exists.

{Patient\_id } => {Address }Functional Dependency Exists.

{Patient\_id }=> {gender}Functional Dependency Exists.

Relation :

( Patient\_id , Patient\_name ,Age, Address , email, gender )

Full Functional Dependency:

{Patient\_id }=> {Patient\_name }

{Patient\_id }=> {Age}

{Patient\_id }=> {Address}

{Patient\_id }=> {email}

{Patient\_id }=> {gender}

1NF:- Attributes do not have sub attributes. So the relation is in 1NF.

2NF:- Every non primary key is Fully Functional Dependent on the primary key. So the relation is in 2NF

3NF:- No chain Exists. So the relation is in 3NF.

BCNF:- No part of the primary key is Fully Functional Dependent on the non primary key. So the relation is in BCNF.

### **9)Doctor\_from\_Specialization Table:-**

This is a junction table between Doctor & Speciality tables.

<u>Doctor_id</u>	<u>Specialty_id</u>

{Doctor\_id }=> {Speciality\_id} Functional Dependency Exist.

Relation :

( Doctor\_id, Specialty\_id,)

Full Functional Dependency:

{Doctor\_id }=> {Speciality\_id}

1NF:- Attributes do not have sub attributes. So the relation is in 1NF.

2NF:- Every non primary key is Fully Functional Dependent on the primary key. So the relation is in 2NF

3NF:- No chain Exists. So the relation is in 3NF