

Normalization and Functional Dependencies

1. User_det table:

User_det(User_id, Name, User_type, city, contact_nu, Aadhar_nu, Birth_year, Adv_id)

❖ Functional Dependencies:

User_id → Name

User_id → User_type

User_id → city

User_id → contact_nu

User_id → Aadhar_nu

User_id → Birth_year

User_id → Adv_id

❖ **Normal Form:** User_det is in **BCNF** form as User_id is determining all the other attributes of the relation.

❖ Domain Constraints:

- **Not Null:** User_name, Gender
- **Check:** Aadhar_nu, Birth_year

❖ **Primary Key:** User_id

❖ **Foreign key:** Adv_id

2. Fir table:

Fir(Fir_nu, registered_date, Description)

❖ Functional Dependencies:

Fir_nu → registered_date

Fir_nu → Description

❖ **Normal Form:** Fir is in **BCNF** form as Fir_nu is determining all the other attributes of the relation.

❖ Domain Constraints:

- **Not Null:** registered_date

❖ **Primary Key:** fir_no

3. Cases table:

Cases(Case_no,start_date,end_date,Status,city,Fir_no,Court_id,Case_type_id)

❖ Functional Dependencies:

Case_no->start_date

Case_no->end_date

Case_no->Status

Case_no->city

Case_no->Fir_no

Case_no->Court_id

Case_no->Case_type_id

❖ **Normal Form:** Cases is in **BCNF** form as Case_no is determining all the other attributes of the relation.

❖ Domain Constraints:

- **Not Null:** city

❖ **Primary Key:** case_no

❖ **Foreign key:** court_id, fir_no, case_type_id

4. Advocate table:

Advocate(Adv_id,Contact_nu,Bar_Association_number,experience,degree,name,City,Court_id)

❖ Functional Dependencies:

Adv_id->Contact_nu

Adv_id->Bar_Association_number

Adv_id->experience

Adv_id->edu_degree

Adv_id->name

Adv_id->City

Adv_id->Court_id

❖ **Normal Form:** Advocate is in **BCNF** form as Adv_id is determining all the other attributes of the relation.

❖ **Domain Constraints:**

- **Not Null:** city, name, Bar_Association_number, edu_degree

❖ **Primary Key:** adv_id

❖ **Foreign key:** court_id

5. Judge Table:

Judge(judge_id, active_cases, name, city, experience, degree, Contact_nu, Assistant_name, Court_id)

❖ **Functional Dependencies:**

judge_id → active_cases

judge_id → name

judge_id → city

judge_id → experience

judge_id → edu_degree

judge_id → Contact_nu

judge_id → Assistant_name

judge_id → Court_id

❖ **Normal Form:** Judge is in **BCNF** form as judge_id is determining all the other attributes of the relation.

❖ **Domain Constraints:**

- **Not Null:** city, edu_degree, name

❖ **Primary Key:** judge_id

❖ **Foreign key:** court_id

6. Case type table:

Case type(CaseType_id, Type)

❖ **Functional Dependencies:**

Case_type_id → Type

❖ **Normal Form:** Case Type is in **BCNF** form as Case_type_id is determining all the other attributes of the relation.

❖ **Domain Constraints:**

- **Not Null:** type

❖ **Primary Key:** case_type_id

7. Court table:

Court(court_id,court_type,name,city,Contact_nu)

❖ **Functional Dependencies:**

court_id->court_type

court_id->court_name

court_id->city

court_id->Contact_nu

❖ **Normal Form:** Court is in **BCNF** form as Court_id is determining all the other attributes of the relation.

❖ **Domain Constraints:**

- **Not Null:** city, court_name, court_type

❖ **Primary Key:** court_id