**NORMALIZATION**

**First Normal Form (1NF):**

All the tables provided are already in the 1NF because they have atomic values in each column, and there are no repeating groups.

**Second Normal Form (2NF):**

Table 1: employee(employee\_ID(PK), name, occupation)

This table is already in 2NF because it has only one primary key, and all other columns are dependent on it.

Table 2: doctor(employee\_ID (PK), name, age, gender, Dept\_Name (FK), Post(HOD, Senior, junior consultant), Fees, Salary, phone\_number)

This table is already in 2NF because all the non-key columns are dependent on the primary key (employee\_ID) and there are no partial dependencies.

Table 3: Nurses(employee\_ID (PK), name, age, gender, Dept\_Name (FK), Salary, phone\_number)

This table is already in 2NF because all the non-key columns are dependent on the primary key (employee\_ID) and there are no partial dependencies.

Table 4: management(employee\_ID (PK), name, age, gender, Dept\_name(FK), Post, Salary, phone\_number)

This table is already in 2NF because all the non-key columns are dependent on the primary key (employee\_ID) and there are no partial dependencies.

Table 5: Department(Dept\_name(PK), block number(FK))

This table is already in 2NF because it has only one primary key, and all non-key columns are dependent on it.

Table 6: Block(block\_No(PK), No\_of\_beds, No\_of\_ventilators, No\_of\_ICU, No\_of\_OT)

This table is already in 2NF because it has only one primary key, and all non-key columns are dependent on it.

Table 7: Pharmacy(Medicine\_name(PK), Medicine\_description, quantity, price, expiry\_date)

This table is already in 2NF because it has only one primary key, and all non-key columns are dependent on it.

Table 8: Labs(lab\_name(PK), block\_number(FK), test\_done(PK), fees)

This table is not in 2NF because it has a composite primary key (lab\_name, test\_done), and the fees column depends only on the lab\_name. To fix this, we can split the table into two:

Labs(lab\_name(PK), block\_number(FK))

Lab\_Tests(lab\_name(PK, FK), test\_done(PK), fees)

Table 9: Patient(patient\_ID, patient\_name, patient\_age, patient\_gender, last\_visit, appointed\_doctor\_id, phone\_number)

This table is already in 2NF because all non-key columns are dependent on the primary key (patient\_ID).

Table 10: Appointment(appointment\_id (PK), patient\_ID, appointed\_doctor\_id, date, time)

This table is already in 2NF because all non-key columns are dependent on the primary key (appointment\_id).

Table 11: Admissions(patient\_id(PK), block\_no, room\_no)

This table is already in 2NF because all non-key columns are dependent on the primary key (patient\_id).

Table 12: Room(block\_no(PK), room\_no(PK), room\_type, room\_rent)

This table is already in 2NF because it has a composite primary key (block\_no, room\_no), and all non-key columns are dependent on it.

Table 13: Blood\_Bank(donor\_id (PK), donor\_name, blood\_type, donation\_date, donation\_time)

This table is already in 2NF because all non-key columns are dependent on the primary key (donor\_id).