Online Medical Catalogue

**Functional Dependencies: -**

1. **Medicine**

M\_ID, Name 🡪 Dosage, Price

1. **Symptoms**

S\_ID 🡪 Symptom\_Name

1. **Company**

C\_ID 🡪 Company\_Name, City, State, Area, Country, PIN

1. **Manufactures**

M\_ID 🡪 C\_ID

1. **Order Company**

M\_ID, C\_ID, TimeStamp 🡪 Status, Payment, Quantity

1. **Return\_Stock**

M\_ID, C\_ID, TimeStamp 🡪 Quantity

1. **Stock\_Reserve**

WID 🡪 Location

1. **Stock**

M\_ID, WID 🡪 R

1. **Order**

Order\_ID, Tracking\_ID 🡪Time, Status

1. **User**

User\_ID, Phone\_No, email 🡪 R

1. **Order\_User**

User\_ID, Order\_ID 🡪 R

1. **PIN Address**

PIN 🡪 R

Tables Corresponding to ER Diagram

(Primary Key are underlined)

1. Medicine (M\_ID, Name, Price, Dosage)
2. Components (Chemical\_ID, Chemical\_Name)
3. Composition (M\_ID, Chemical\_ID)
4. Contraindications (Chemical\_ID, Chemical\_ID)
5. Symptoms (S\_ID, Symptom\_Name)
6. Treats (M\_ID, S\_ID)
7. SideEffects (M\_ID, S\_ID)
8. TypeMedicine(M\_ID, Type)
9. PIN\_Address (PIN, Area, City, State, Country)
10. Company (C\_ID, Company\_Name, PIN)
11. Manufactures (M\_ID, C\_ID)
12. Order Company (M\_ID, C\_ID, TimeStamp, Status, Payment, Quantity)
13. Return\_Stock( M\_ID, C\_ID, TimeStamp, Quantity)
14. Stock\_Reserve (WID, Location)
15. Stock (M\_ID, WID, Amount, EarliestExpDate, LatestManufacturingDate)
16. Order (Order\_ID, Tracking\_ID, Time, Status)
17. Order\_Medicine (M\_ID, Order\_ID, Quantity)
18. User (User\_ID, Name, Phone\_No, DOB, WalletAmount, Type, Gender, email, House\_No, PIN, Password(#hash) )
19. Order\_User (User\_ID, Order\_ID, Transaction\_ID, TimeStamp, ModeofPayment)

**Normalization**

The Tables are in 1st Normal Form as all attributes are atomic. Non-Atomic Attributes are not supported by MySQL.

The Relations are also in 2nd Normal Form as no non-prime attribute is dependent on any proper subset of any candidate key of the relation.

The Relations are also in 3rd Normal Form as there is no transitive dependencies. Checking by (Boyce Codd’s Def. of 3rd Normal Form) for all functional dependencies X🡪Y which is not a trivial Functional Dependency, it implies that X is a superkey of schema R. Since the first condition holds true, it is in 3NF.

The Tables(Relations) are all in BCNF (Boyce Codd Normal Form) as for all functional dependencies of the form X 🡪 Y which is not a trivial functional dependency, it implies that X is a superkey of schema R.

Thus all relations are in **BCNF**.

Apart from that some Tables that have foreign keys are marked as “ON DELETE CASCADE” so that when the entry corresponding to original table is deleted all the references are deleted too. This is done so as to reduce unreferenced data in the database.