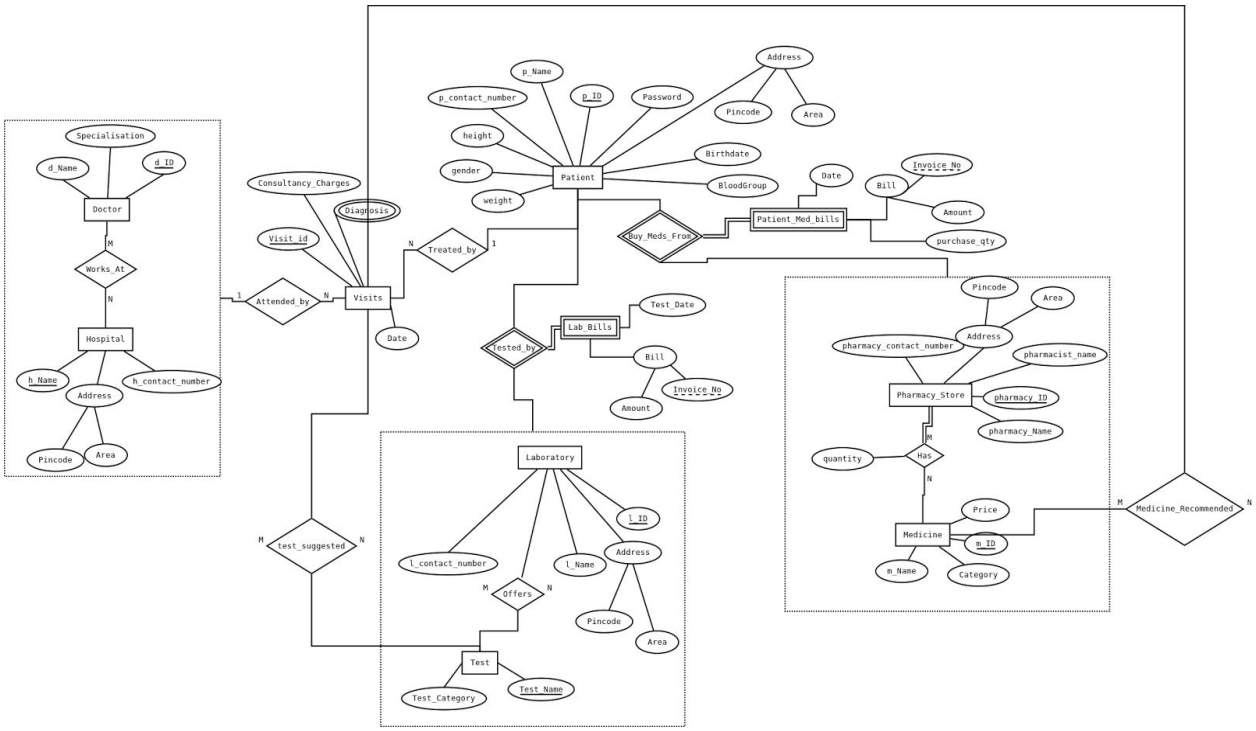
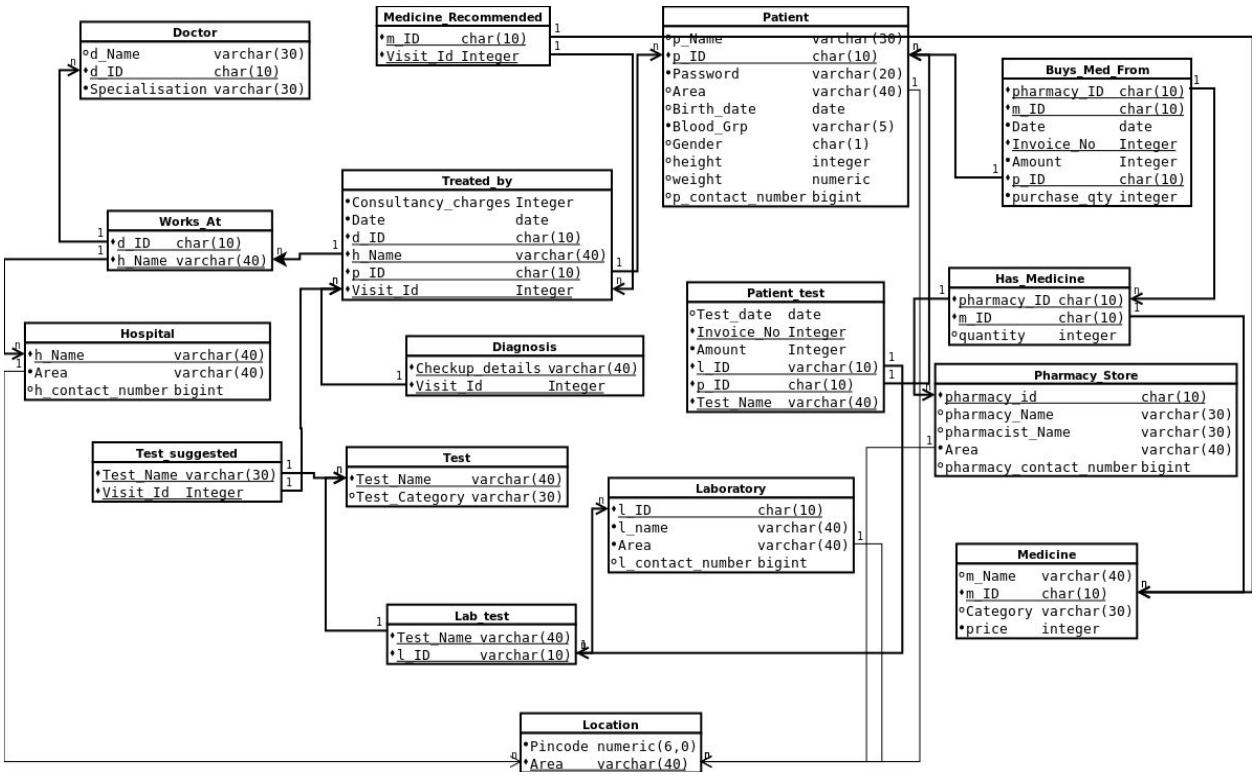
Group Members:
201501132
201501230
201501423

HEALTHCARE MANAGEMENT SYSTEM

Entity Relationship Diagram



Relational Schema



Canonical Form of FDs and and their Normal form

1. Doctor(d_Name,d_ID,Specialisation)
   d_ID->{d_Name,Specialisation}
   Normal Form : BCNF

2. Hospital(h_Name,Area,h_contact_number)
   h_Name->{Area,h_contact_number}
   Normal Form : BCNF

3. Treated_By(Consultancy_charges,Date,d_ID,h_Name,p_ID,Visit_Id)
   {d_ID,h_Name,p_ID,Visit_Id} -> {Consultancy_charges,Date}
   Normal Form : BCNF

4. Patient(p_Name, p_ID, Password, Area, Birth_Date, Blood_Grp,p_contact_number)
   p_ID-> { p_Name, Password, Area, Birth_Date, Blood_Grp,p_contact_number }
   Normal Form : BCNF

5. Diagnosis(Checkup_details,Visit_Id)
   Visit_Id->{Checkup_details}
   Normal Form : BCNF

6. Laboratory(l_ID, Technician_Name, l_name,Area,l_contact_number)
   l_ID->{l_name, Technician_Name , Area,l_contact_number}
   Normal Form: BCNF

7. Pharmacy_Store(pharmacy_ID, pharmacy_Name, pharmacist_Name, Area, pharmacy_contact_number)
   pharmacy_ID -> { pharmacy_Name, pharmacist_Name, Area, pharmacy_contact_number}
   Normal Form: BCNF

8.Patient_Test(Test_date, Amount, Invoice_No,l_ID, p_ID, Test_Name)
   {l_ID, p_ID, Test_Name,Invoice_No} -> { Test_date, Amount }
   Normal Form : BCNF

9. Tests(Test_Name, Test_Category)
   Test_Name -> Test_Category

10. Buys_Med_From(pharmacy_ID ,m_ID, p_ID, Invoice_No,Date, Amount, Purchase_qty)
   {pharmacy_ID ,m_ID, p_ID, Invoice_No } -> { Date, IAmount, Purchase_qty }
   Normal Form : BCNF

11. Medicine(m_Name,m_ID,Category,price)
    m_ID->{ m_Name, Category,price }
    Normal Form : BCNF

12. Location(Area,Pincode)
    Area->{Pincode}
    Normal Form : BCNF
13.Has_Medicine(pharmacy_ID,m_ID,quantity)
    {pharmacy_ID,m_ID}->{quantity}
    Normal Form : BCNF

Here in the below relations, both have 2 columns with both the columns being key. Thus, they are trivial dependencies. Hence, they are in BCNF.

- Medicine_Recommended(m_ID,Visit_Id)
- Test_Suggested(Test_Name,Visit_Id)

The below listed relations are created from the M:N type of relationship instance with no attributes of the relationship instance. Due to this, all the attributes of these relations form the key. Thus, they are trivial dependencies. Hence, they are in BCNF.

- Works_At(d_ID, h_Name)
- Lab_Test(Test_Name,l_ID)