**Normalization :**

**Table:1 Attribute Literal Mapping**

| **Entity** | **Attribute** | **Literal** |
| --- | --- | --- |
| HEALTH CARE FACILITY | FacilityID | x1 |
| Name | a1 |
| district | b1 |
| subDistrict | c1 |
| Department | d1 |
| Hotline | e1 |
| ServiceOffered | f1 |
| DiagnosisCenter? | g1 |
| Hospital? | h1 |
| DIAGNOSIS CENTER | dFacilityID | x2 |
| DiagnosticService | a2 |
| HOSPITAL | hFacilityID | x3 |
| EmergencyService | a3 |
| ICUCapacity | b3 |
| DIAGNOSIS RECORD | diagnosisID | x4 |
| TestItem | a4 |
| Result | b4 |
| ResultSummary | c4 |
| observation | d4 |
| max | e4 |
| min | f4 |
| DiagnosisDate | g4 |
| DIAGNOSTIC TEST | diagnosisTestID | x5 |
| TestName | a5 |
| TestSample | b5 |
| TestType | c5 |
| DiagnosisBill | d5 |
| DIAGNOSED SYMPTOM | diagnosedSymptomID | x6 |
| Name | a6 |
| Duration | b6 |
| PATIENT | PatientID | x7 |
| fName | a7 |
| lName | b7 |
| DOB | c7 |
| District | d7 |
| subdistrict | e7 |
| Gender | f7 |
| PhoneNumber | g7 |
| Email | h7 |
| DiabetesType | i7 |
| Weight | j7 |
| Height | k7 |
| InsulinStatus | l7 |
| OtherIllness | m7 |
| APPOINTMENT | AppointmentID | x8 |
| AppointmentDate | a8 |
| Online | b8 |
| Offline | c8 |
| Time | d8 |
| DAILY HEALTH METRICS | metricID | x9 |
| BPUp | a9 |
| BPLow | b9 |
| Weight | c9 |
| GlucoseLlevel | d9 |
| DailyCarolieConsumption | e9 |
| calorieBurned | f9 |
| WaterIntake | g9 |
| Date | h9 |
| CONSULTATION | consultationID | x10 |
| SuggestedAdvice | a10 |
| FollowUpDate | b10 |
| Instruction | c10 |
| MEDICINE | medicineID | x11 |
| DrugName | a11 |
| SideEffects | c11 |
| Indications | b11 |
| Precautions | d11 |
| Warnings | e11 |
| DosageInstructions | f11 |
| PRESCRIPTION | prescriptionID | x12 |
| Date | a12 |
| UpdatedDate | b12 |
| TestRecommend | c12 |
| DIET | dietID | x13 |
| Breakfast | a13 |
| Lunch | b13 |
| Dinner | c13 |
| Snack | d13 |
| DietRecommendedDate | e13 |
| weightloss | f13 |
| musclegain | g13 |
| maintenance | h13 |
| Time | i13 |
| NumberofMeal | j13 |
| Name | k13 |
| unit | l13 |
| calories | m13 |
| mineral | n13 |
| carbohydrates | o13 |
| proteins | p13 |
| fats | q13 |
| Description | r13 |
| StartingTime | s13 |
| EndTime | t13 |
| FOOD | foodID | x14 |
| FoodName | a14 |
| Carbohydrates | b14 |
| Fats | c14 |
| Vitamins | d14 |
| Protein | e14 |
| Minerals | f14 |
| unit | g14 |
| min | h14 |
| max | i14 |
| vitalsName | j14 |
| unit | k14 |
| REVIEW | reviewID | x15 |
| LikeStatus | a15 |
| ClientReviewDate | b15 |
| Description | c15 |
| HEALTH CARE PROFESSIONAL | ID | x16 |
| Name | a16 |
| DOB | b16 |
| district | c16 |
| subDistrict | d16 |
| Gender | e16 |
| PhoneNumber | f16 |
| Email | g16 |
| NID | h16 |
| Certifications | i16 |
| Education | j16 |
| YearsofExperience | k16 |
| HospitalAffiliation | l16 |
| Doctor? | m16 |
| Nutritionist? | n16 |
| DOCTOR | dID | x17 |
| Speciality | a17 |
| NUTRITIONIST | nID | x18 |
| NutritionistType | a18 |
| PRESCRIPTION  \_REFERS\_MEDICINE | medicineID | x11 |
| prescriptionID | x12 |
| frequency | a11\_12 |
| duration | b11\_12 |
|  | PatientID | x7 |
| dietID | x13 |
| nID | x18 |
| DietPlan | a7\_13\_18 |
| DOCTOR\_AFFILIATED  \_WITH\_HOSPITAL | hFacilityID | x3 |
| dID | x17 |
| starttime | a3\_17 |
| endtime | b3\_17 |
| ScDate | c3\_17 |

**Table:2 Dependency Mapping using Literal**

| **x1 →** | a1, b1, c1, d1, e1, f1, g1, h1 |
| --- | --- |
| **x2 →** | a2 |
| **x3 →** | a3, b3 |
| **x4 →** | a4, b4, c4, d4, e4, f4, g4 |
| **x5 →** | a5, b5, c5, d5 |
| **x6 →** | a6, b6 |
| **x7 →** | a7, b7, c7, d7, e7, f7, g7, h7, i7, j7, k7, l7, m7 |
| **x8 →** | a8, b8, c8, d8 |
| **x9 →** | a9, b9, c9, d9, e9, f9, g9, h9 |
| **x10 →** | a10, b10, c10 |
| **x11 →** | a11, b11, c11, d11, e11, f11 |
| **x12 →** | a12, b12, c12 |
| **x13 →** | a13, b13, c13, d13, e13, f13, g13, h13, i13, j13, k13, l13, m13, n13, o13, p13, q13, r13, s13, t13 |
| **x14 →** | a14, b14, c14, d14, e14, f14, g14, h14, i14, j14, k14 |
| **x15 →** | a15, b15, c15 |
| **x16 →** | a16, b16, c16, d16, e16, f16, g16, h16, i16, j16, k16, l16, m16, n16 |
| **x17 →** | a17 |
| **x18 →** | a18 |
| **x11, x12 →** | a11\_12, b11\_12 |
| **x7, x13, x18 →** | a7\_13\_18 |
| **x3, x17 →** | a3\_17, b3\_17, c3\_17 |

**Table 3: Dependency Mapping using attributes**

| **FacilityID →** | Name, district, subDistrict, Department, Hotline, ServiceOffered, DiagnosisCenter?, Hospital? |
| --- | --- |
| **dFacilityID →** | DiagnosticService |
| **hFacilityID →** | EmergencyService, ICUCapacity |
| **diagnosisID →** | TestItem, Result, ResultSummary, observation, max, min, DiagnosisDate |
| **diagnosisTestID →** | TestName, TestSample, TestType, DiagnosisBill |
| **diagnosedSymptomID →** | Name, Duration |
| **PatientID →** | fName, lName, DOB, district, subDistrict, Gender, PhoneNumber, Email, DiabetesType, Weight, Height, InsulinStatus, OtherIllness |
| **appointmentID →** | AppointmentDate, Online, Offline, Time |
| **metricID →** | BPUp, BpLow, Weight, GlucoseLevel, DailyCaloricConsumption, calorieBurned, WaterIntake, Date |
| **consultationID →** | SuggestedAdvice, FollowUpDate, Instruction |
| **medicineID →** | DrugName, Indications, Interaction, SideEffects, Precautions\_Warnings, DosageInstructions |
| **prescriptionID →** | Date, UpdatedDate, TestRecommend |
| **dietID →** | Breakfast, Lunch, Dinner, Snack, DietRecommendedDate, weightloss, musclegain, maintenance, Time, NumberofMeal, Name, unit, calories, mineral, carbohydrates, proteins, fats, Description, StartingTime, EndTime |
| **foodID**  **→** | FoodName, Carbohydrates, Fats, Vitamins, Protein, Minarals, unit, min, max, VitalsName, unit |
| **reviewID →** | LikeStatus, ClientReviewDate, Description |
| **ID →** | Name, DOB, district, subDistrict, Gender, PhoneNumber, Email, NID, Certifications, Education, YearsofExperience, HospitalAffiliation, Doctor?, Nutritionist? |
| **dID →** | Specialty |
| **nID →** | NutritionistType |
| **medicineID,prescriptionID →** | frequency,duration |
| **PatientID,dietID,nID →** | DietPlan |
| **hFacilityID,dID →** | starttime,endtime,ScDate |