|  |
| --- |
| PatNo → PatAge |
| PatZip9 → PatCity |
| VisitNo → VisitDate  PatNo → PatZip9  ProvNo → ProvSpecialty |
| VisitNo → PatNo |
| VisitNo, ProvNo → Diagnosis  ProvNo → ProvEmail  ProvEmail → ProvNo |

Step 1: Arrange the remaining FDs into groups by determinant

PatNo  PatAge, PatZip9

PatZip9  PatCity

VisitNo  VisitDate,PatNo

ProvNo  ProvSpeciality, ProvEmail

ProvEmail  ProvNo

VisitNo, ProvNo  Diagnosis

Step 2: For each FD group, make a table with the determinant as the primary key. In the table list, the primary keys are underlined.

Patient(PatNo, PatAge, PatZip9)

FOREIGN KEY (PatZip9) REFERENCES PatientZip

PatientZip (PatZip9, PatCity)

Visit(VisitNo, VisitDate, PatNo)

FOREIGN KEY (PatNo) REFERENCES Patient

Provisional(ProvNo, ProvSpeciality, ProvEmail)

FOREIGN KEY (ProvEmail) REFERENCES ProvisionalEmail

ProvisionalEmail(ProvEmail, ProvNo)

FOREIGN KEY (ProvNo) REFERENCES Provisional

Diagnys(VisitNo, ProvNo, Diagnosis)

FOREIGN KEY (VisitNo) REFERENCES Visit

FOREIGN KEY (ProvNo) REFERENCES Provisional

Step 3: Merge tables with the same columns. The Provisional and ProvisionalEmail tables are merged. UNIQUE constraints are added for ProvisionalEmail.

Patient(PatNo, PatAge, PatZip9)

FOREIGN KEY (PatZip9) REFERENCES PatientZip

PatientZip (PatZip9, PatCity)

Visit(VisitNo, VisitDate, PatNo)

FOREIGN KEY (PatNo) REFERENCES Patient

Provisional(ProvNo, ProvSpeciality, ProvEmail)

FOREIGN KEY (ProvEmail) REFERENCES ProvisionalEmail

UNIQUE (ProvEmail)

Diagnys(VisitNo, ProvNo, Diagnosis)

FOREIGN KEY (VisitNo) REFERENCES Visit

FOREIGN KEY (ProvNo) REFERENCES Provisional