2)

|  |
| --- |
| 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, PatZip

PatZip  PatCity

VisitNo  VisitDate, PatNo

ProvNo  ProvSpeciality, ProvEmail

VisitNo, ProvNo  Diagnosis

ProvEmail  ProvNo

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, PatZip)

FOREIGN KEY (PatZip) REFERENCES Patient

PatZip(PatZip, PatNo)

FOREIGN KEY (PatNo) REFERENCES Patient

Visit(VisitNo,VisitDate,PatNo)

FOREIGN KEY (PatNo) REFERENCES Patient

Provider(ProvNo, ProvSpeciality, ProvEmail)

FOREIGN KEY (ProvEmail) REFERENCES ProviderEmail

ProviderEmail(ProvEmail, ProvNo)

FOREIGN KEY (ProvNo) REFERENCES Provider

Diagnose(VisitNo, ProvNo, Diagnosis)

FOREIGN KEY (ProvNo) REFERENCES Provider

FOREIGN KEY (VisitNo) REFERENCES Visit

Step 3: Merge tables with the same columns. The Author and AuthEmail tables are merged. The Reviewer and ReviewerEmail tables are merged. UNIQUE constraints are added for AuthEmail and RevEmail.

Patient(PatNo, PatAge, PatZip)

UNIQUE (PatZip)

Visit(VisitNo,VisitDate,PatNo)

FOREIGN KEY (PatNo) REFERENCES Patient

Provider(ProvNo, ProvSpeciality, ProvEmail)

UNIQUE(ProvEmail)

Diagnose(VisitNo, ProvNo, Diagnosis)

FOREIGN KEY (ProvNo) REFERENCES Provider

FOREIGN KEY (VisitNo) REFERENCES Visit