Problem2

Intital FDs:

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

1. **Arranging FDs together with same determinants**

PatNo → PatAge, PatZip9

VisitNo → VisitDate, PatNo

PatZip9 → PatCity

ProvNo → ProvSpecialty, ProvEmail

VisitNo, ProvNo → Diagnosis

ProvEmail → ProvNo

1. **Creating corresponding tables**

Patient

(**PatNo**, PatAge, PatZip9)

FOREIGN KEY(PatZip9) REFERENCING ZIP

Visit

(**VisitNo**, VisitDate, PatNo)

FOREIGN KEY(PatNo) REFERENCING Patient

ZIP

(**PatZip9**, PatCity)

Prov

(**ProvNo**, ProvSpecialty, ProvEmail)

FOREIGN KEY(ProvEmail) REFERENCING ProvMail

VisitProv

(**VisitNo, ProvNo**, Diagnosis)

FOREIGN KEY(VisitNo) REFERENCING Visit

FOREIGN KEY(ProvNo) REFERENCING Prov

ProvMail

(**ProvEmail**, ProvNo)

FOREIGN KEY(ProvNo) REFERENCING ProvNo

1. **Merging tables with same columns**

* Patient, ZIP
* Prov, ProvMail

Prov

(**ProvNo**, ProvSpecialty, ProvEmail)

UNIQUE ProvEmail

Patient

(**PatNo**, PatAge, PatZip9, PatCity)

Visit

(**VisitNo**, VisitDate, PatNo)

FOREIGN KEY(PatNo) REFERENCING Patient

VisitProv

(**VisitNo, ProvNo**, Diagnosis)

FOREIGN KEY(VisitNo) REFERENCING Visit

FOREIGN KEY(ProvNo) REFERENCING Prov