2.Apply the simple BCNF procedure to define BCNF tables using the FD list Table 2. Show the result of each step in your analysis. For the final result, you should show the tables, columns, primary key of each table, foreign keys, and unique constraints. You do not need to provide CREATE TABLE statements.

Table 2: FDs for the Big Patient Table

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

Solution

Group FD’s

PatNo →PatAge, PatZip9

PatZip9→PatCity

VisitNo→VisitDate,PatNo,

ProvNo→ProvSpeciality,Diagnosis,ProvEmail

ProvEmail→ProvNo

Create a Table after grouping FD’s

Table Name- Pat

Primary key- Patno

Foreign Key- Patzip9

Other columns-PatAge

Table Name- PatZip9

Primary Key- PatZIp9

Other columns – PatCity

Table Name- Visit No

Primary Key- VistNo

Foreign Key- PatNo

Other columns -VistDate

Table Name- ProvNo

Primary key- ProvNo

Foreign key- ProvEmail

Other columns- ProvSpeciality,Diagnosis

Table Name -ProvEmail

Primary key- ProvEmail

Foreign Key- ProvNo

Merge Tables with Same column names

Pat and PatZip9 are merged

ProvNo and ProvEmail are merged

Table Name- Pat

Primary key- Patno

Other columns-PatAge , PatCity, Patzip9

Unique key – Patzip9

Table Name- ProvNo

Primary key- ProvNo

Other columns- ProvSpeciality,Diagnosis, ProvEmail

Unique key- ProvEmail