1. You should identify insertion, update, and deletion anomalies in the sample rows of the big patient table shown in Table 1. You should identify one example of each type of anomaly. The combination of *VisitNo* and *ProvNo* is the only unique column(s) for the table.

Table 1: Sample Rows for the Big Patient Table

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **VisitNo** | **VisitDate** | **PatNo** | **PatAge** | **PatCity** | **PatZip** | **ProvNo** | **ProvSpecialty** | **Diagnosis** |
| V10021 | 2/13/2015 | P1 | 36 | Denver | 80217 | D1 | internist | Ear Infection |
| V10021 | 2/13/2015 | P1 | 36 | Denver | 80217 | D2 | NURSE PractiTIoner | INFLUENZA |
| V93030 | 2/20/2015 | P3 | 17 | Englewood | 80113 | D2 | NURSE PRACTITIONER | pregnancy |
| V82110 | 2/18/2015 | P2 | 60 | Boulder | 85932 | D3 | cardiologist | murmur |

Solution:

Insertion Anamoly:

Necessary to know VisitNo and ProvNo since both are primary key

Update anamoly:

If we update Provspeciality of D2 two rows must be changed

Delete anamoly:

If we delete Provno D2 of Visit no V10021 ,then two rows will be deleted and we lost the information of patient P1 in V10021.