**Module 11**

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 |

**The List of anomalies:**

1. **Insertion Anomaly:**

For entering a new Visitor a ProvNo and ProvSpeciality is needed without which we cannot enter the details.

Eg: For entering a new Visitor ‘V83112’ we also require ProvNo and other details which at the starting may not be present.

1. **Update Anomaly:**

Have to change multiple rows if the Patient moves to a different city,different PatZip,age changes.

Example: To update city of patient P1,two rows 1 and 2 need to be updated.

1. **Deletion Anomaly:**

Deleting a row of patient will also delete the details of the provider.

-Or-

Deleting a Provider will delete all the patients.

Eg: Deleting the details of Patient P1 will delete the provider D1 and D2.