Ryan Smith

A1

1/18/2017

Exercises 1-4

1. There are 7 records and 5 fields per record.

2. You can’t produce a listing by city because the city is stored in the same field as all the address information. Moving the city to a different field would allow you to produce a listing by city.

3. Last name would have to be separated from the project manager field. Address would have to be separated into 3 more fields; city, state, and zip code.

4. There are redundancies in PROJECT\_MANAGER, MANAGER\_PHONE, and MANAGER\_ADDRESS. Some major sources of redundancy are names, phone numbers, and addresses. If someone is assigned to multiple projects there will be redundancy. There are three types of data anomalies; update anomaly, insertion anomaly, and deletion anomaly. An update anomaly could occur in this data if for example Project Manager Holly Parker changed her phone number. Her phone number appears in three different locations. If someone makes a mistake while updating all the records where her phone numbers appear there will be data inconsistency.