Lavelle Burgess

Azhar Ishaque

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Homework #1

Q1. How many records does this file contain? How many fields are there per record?

There are seven records in the table PROB\_1\_01 and there are five fields in the table.

Q2. What problem would you encounter if you wanted to produce a listing by city? How would you solve this problem by altering the file structure?

A problem that would be encountered if you were to try to produce a list by city would be that the city name is in the MANAGER\_ADDRESS field along with street address, state, and ZIP code, making it difficult to search by city. I would break up the MANAGER\_ADDRESS field into smaller fields such as MANAGER\_STREET\_ADDRESS, MANAGER\_CITY, MANAGER\_STATE, and MANAGER\_ZIP. This would allow a query to search by city, street, or state.

Q3. If you wanted to produce a listing of the file contents by last name, area code, city, state, or zip code, how would you alter the file structure?

I would alter the file structure of the table by breaking down fields in this table to searchable components. PROJECT\_MANAGER should be broken down into PROJECT\_MANAGER\_FNAME, PROJECT\_MANAGER\_LNAME, PROJECT\_MANAGER\_MINITIAL so that a query can search on any part of the project manager’s name. I would make separate fields for MANAGER\_AREA\_CODE from MANAGER\_PHONE. As stated in Q2, to make it possible to search by city, state, or zip code I would break MANAGER\_ADDRESS up into searchable fields.

Q4. What data redundancies do you detect? How could those redundancies lead to anomalies?

Project managers, manager phone numbers, and addresses have redundancies. Holly B. Parker is managing three projects and other than project code and project bid price, the fields for each of her projects are repeated. If a project manager’s phone number or address were to change, it would need to update each and every record that relates to that project manager or there would be anomalies in the table. I would suggest making a managers table and a project table so that only one record needs updating if there is a change to the project or the manager of the project.