

CHAPTER ONE

1. The file contains 7 records and there are 5 fields for each record.
2. The problem you might encounter by filtering by last name is that in the string for "PROJECT_MANAGER" the last name is stored at an arbitrary place in the string. You could filter by looking past 2 spaces, but this would break if someone had no middle name. The real solution would be to create 2 new fields, one for middle name and one for last name, then you could sort by the last name field.
3. I would move the state and zip code from the "MANAGER_ADDRESS" field and move it to two new records called "MANAGER_STATE" and "MANAGER_ZIPCODE" which could be distinctly sorted.
4. The problem with redundant data is the project managers and their phone numbers and address which would be a problem if any of those records were to change as you would need to update all of these records individually which is prone to error.

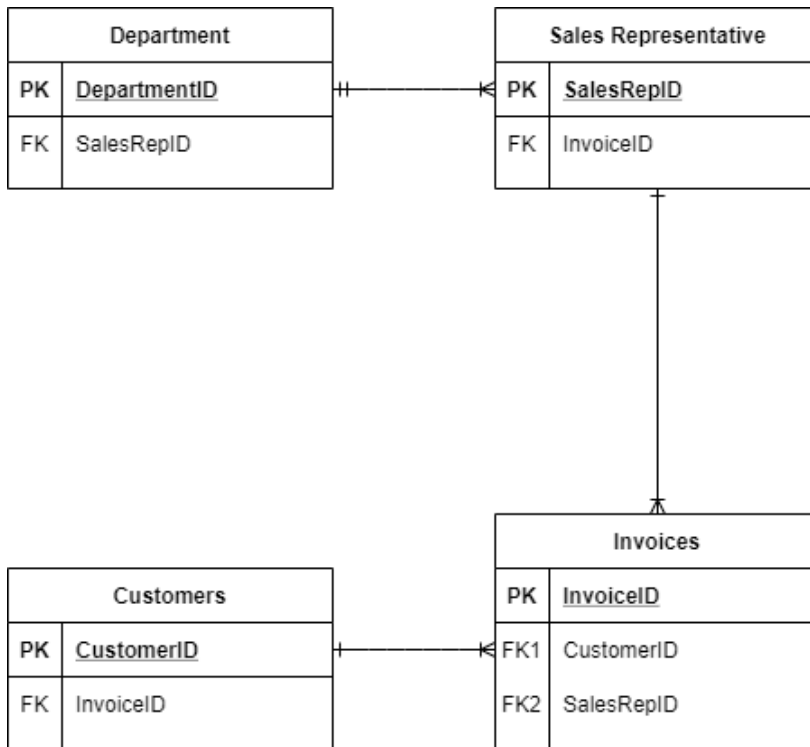
CHAPTER TWO

Review Questions

2. A business rule is a rule that defines a relationship between two distinct parts of data, which is fundamental in the goal of modeling data.
11. A relationship is a way of describing the way to pieces of data relate to each other, and can be understood easier by looking at the 3 primary ways these relationships exist, like the 1 to 1 relationship, in which 1 piece of data is only tied to 1 other piece of data. Another is many to 1, which describes a relationship in which one piece of data can relate to many pieces of data. The third primary relationship is many to many in which a single piece of data can have relationships with many, but it may go in either direction.
12. An example of a one to one relationship, is that one company can only have one CEO. An example of one to many is that, one cashier can have many receipts, and receipts can only be generated by one cashier. An example of a many to many relationship is that of a product and customers, A product can be bought by many customers, but a single customer can own many of that product.

Problems

14.



16c.



16d.

