Ch_9 Question 1:

a.

7 Normalize the conceptual model.

3 Obtain a general description of company operations.

9 Load the database.

4 Create a description of each system process.

11 Test the system.

6 Draw a data flow diagram and system flowcharts.

5 Create a conceptual model using ER diagrams.

10 Create the application programs.

2 Interview the mechanics.

8 Create the file (table) structures.

1 Interview the shop manager.

b. Describe the various modules that you believe the system should include.

The system should have four modules:

Customer: Billing and payment of customers.

Inventory: Parts and modules in stock.

Work order: Car maintains history and all work orders to get the maintain done.

Employee(payroll): Employee information and work hours.

c. How will a data dictionary help you develop the system? Give examples.

The data dictionary is the metadata of the database design. It can help provide a overview of all the modules and entities. When developing the system, the data dictionary can be used as a reference to create detailed relational schemas.

d. What general (system) recommendations might you make to the shop manager? For example, if the system will be integrated, what modules will be integrated? What benefits would be derived from such an integrated system? Include several general recommendations.

I would suggest that all three service centers located in the state to integrated with same systems so that they can share information. Modules such as inventories, customers should also be integrated. In that case, customer served by different service center can have their information keep in track. And a service center can send a customer to another center if they do not have the parts in the stock. They should also divide the area they serve instead of having all three service centers all serve the whole state.

e. What is the best approach to conceptual database design? Why?

The best way is to have a centralized database and design it with a top down approach. Because this is a relatively small business which is suitable for centralized database. And this approach let addition of future functions and new service center possible.

f. Name and describe at least four reports the system should have. Explain their use. Who will use those reports?

Inventory report: used by manager to track the inventories and purchases.

Customer report: used by manager to check all current existing customers. Can also be used by a customer who want to check his/her order histories. Containing purchase, balance and payments.

Employee/payroll report: used by human resources manager to check monthly payment and work hours. Employee can also use this to check their payment history.

Invoice(order) Report: Used by managers to check all the orders. Company can use this to do sale analysis.

Ch_15 Review Question:

Q13: What does this statement mean: "The web is a stateless system." What implications does a stateless system have for database application developers?

It means web server does not know the status of the clients. This bring extra difficulty to the database application developers to find a work around to know the states under a stateless solution.

Q16: What is XML, and why it is important.

It is extensible markup language. It is a meta-language that represent and manipulate data elements. XML facilitates the exchange of structured document.

Q18: What are XML schema definition (XSD) documents, and what do they do?

It is a file contains the description of the XML document. It defines XML data document configuration.

Q19: What is JDBC, and what is it used for?

JDBC is Java Database Connectivity. It is an interface that allows Java to interact with different data sources, such as relational databases. It allows Java to establish a connection and send the SQL code to the database server and process the return data.