## Friendly Cars Dealership

* **General Description**

Friendly Cars is a dealership that offers new cars from a single manufacturer. The dealership is located in a suburb of a large city. Its gross sales exceed one million dollars per year. It has ten employees – Jim Friendly (the owner/manager), eight salespeople, and an office manager.

Most of its customers are from the surrounding area, and they learn about the dealership by word of mouth, from newspaper, radio, and television advertisements, via the Internet, or by referral from buying services.

* **Basic Operations**

Potential customers usually come in person to the showroom to browse and test-drive the cars. They comparison shop, visiting many dealerships of several manufacturers. They usually have a list of features they wish, and some knowledge of the models the dealership offers. They are greeted by whichever salesperson is free when they walk into the showroom. In a few cases, they specify which salesperson they wish to deal with. They work with a single salesperson until the deal is completed because all sales are done on a commission basis.

There is a sticker price on each car, prominently displayed in the side window. Customers negotiate with the salesperson to get a better price. If the proposed price is significantly below the sticker price, the salesperson has to get Jim Friendly’s approval before agreeing to the deal.

Financing can be arranged with the manufacturer through the dealership, or the customer can get financing through his or her own bank. All taxes and license fees are paid through the dealership.

The customer can have additional customization of the car, including special trim, alarm system, audio system, etc. done at the dealership before picking up the car.

All the new cars come with a standard warranty, but customers can opt for an extended warranty at an additional cost.

Trade-ins are accepted as partial payment for new cars. The dealership also sells these trade-ins as used cars, which can be from a variety of manufacturers. No maintenance is done on the trade-ins; they are sold “as-is”, with a limited 30-day warranty.

* **Information Needs**

The dealership has a database management system that currently keeps track of cars and sales information. However, Jim wishes to develop a new database that can provide more information more efficiently than the current system. The current system stores information about the cars, the customers, salespeople, and the sales of cars.

Jim wants a more detailed database with the following information:

**a) Price Sticker -** The price sticker that comes with the car when it is shipped from the manufacturer contains all the basic information about the car itself. It includes a Vehicle ID (or VIN), that identifies the car uniquely, and is physically embedded in the car’s body. The sticker also gives the list price, model, date of manufacture, place of manufacture, number of cylinders, number of doors, weight, capacity, options, color, etc. The dealership adds the date the car was delivered and the mileage at the time of delivery.

**b) Customer Data -** Basic contact information about customers is obtained by salespeople when they greet them at the showroom. Additional customer information is gathered when a sale is made. Jim also seeks to gather names and addresses of potential customers using referrals, reply cards from newspapers and magazines, and other sources. These are used to mail promotional material to prospective customers.

**c) License, Tax and Insurance Documents -** The dealership is required to submit information about each sale to the state prior to issuing a license plate for the car. They must also remit the state sales tax and license fee on each sale directly to the state. They are required to obtain and submit proof of insurance coverage to the state before releasing the car to the new owner.

**d) Bill of Sale** - When the car is delivered to the customer, a completed bill of sale, showing the customer information, salesperson name, Vehicle ID (or VIN), current mileage, and all the specifications, including any extra customization, financing, warrantee information, license and insurance information, price, etc. is provided to the customer, with a copy kept in the dealership. This bill of sale is the same whether the car is new or used.

**e) Salesperson Performance Report** - Jim would like a monthly report summarizing each salesperson’s sales for the previous month. The amount of commission earned is also shown in the report.

**f) Customer Satisfaction Survey** - Within a month after each sale, the dealership sends a survey to the new owner, asking questions about the customer’s opinion of the car, the dealership, and the salesperson.

**Step 1.1** The following forms are used to provide information that will be added to the Dealership database.

**1. Customer Information Form**. When a customer comes to the showroom to browse and test-drive the cars they are greeted by whichever salesperson is free and he collects contact information and data about the customer, as shown on the form in Figure S.1. As customers work with a single salesperson until the deal is completed because all sales are done on a commission basis, the name of the salesperson who attended the customer is included in the form.

|  |  |
| --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | |
| **CUSTOMER INFORMATION FORM** | |
| **Your Information** | |
| First Name: | Last Name: |
| Street: | Apt / Unit: |
| City / ST: | Zip: |
| Date of Birth: | Sex: ( ) Male ( ) Female |
| Phone: | Email: |
| Referenced by (if applicable): | |
| How did you know about us? | |
| Date of visit: | |
| **Office Use Only** | |
| Salesperson: | |

**Figure S.1** Customer Information Form

**2. Customer Referral Form.** Jim Friendly wants to gather names and addresses of potential customers using referrals information as shown in Figure S.2. This information is used to mail promotional material to prospective customers.

|  |  |
| --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | |
| **CUSTOMER REFERRAL FORM** | |
| **Your Information** | |
| First Name: | Last Name: |
| Street: | Apt / Unit: |
| City / ST: | Zip: |
| Date of Birth: | Sex: ( ) Male ( ) Female |
| Phone: | Email: |
| **Referral Information** | |
| Candidate Name: | |
| Street: | Apt / Unit: |
| City / ST: | Zip: |
| Date of Birth: | Sex: ( ) Male ( ) Female |
| Phone: | Email: |
| **Office Use Only** | |
| Salesperson: | |
| Date Received: | |

**Figure S.2** Customer Referral Form

**3. Salesperson Information Form**. When Jim Friendly hires a person to work as a salesperson in the car dealership he collects contact information and data about the salesperson, as shown on the form in Figure S.3.

|  |  |
| --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | |
| **SALESPERSON INFORMATION FORM** | |
| **Your Information** | |
| First Name: | Last Name: |
| Street: | Apt / Unit: |
| City / ST: | Zip: |
| Date of Birth: | Sex: ( ) Male ( ) Female |
| Phone: | Email: |
| Social Security Number: | |
| Date of Admission: | |

**Figure S.3** Salesperson Information Form

**4. Vehicle Information Form.** When Jim Friendly receives a car from a manufacturer it comes with the information about the car in the price sticker. This information is collected and added to the dealership database as shown on form S.4.

|  |  |
| --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | |
| **VEHICLE INFORMATION FORM** | |
| **Vehicle Description** | |
| Make: | Model: |
| Year: | Color: |
| Vehicle Identification Number (VIN): | |
| New / Used: | Mileage: |
| Number of Cylinders: | Number of Doors: |
| Weight: | Capacity: |
| Optional: | |
|  | |
| Date of Manufacture: | Place of Manufacture: |
| **Acquisition Information** | |
| Cost of Acquisition: | Date of Acquisition: |
| Date of Delivery: | Mileage at Delivery: |
| **Price** | |
| Price: | |

**Figure S.4** Vehicle Information Form

**5. Bill of Sale Information Form.** When a car is sold by the Dealership the salesperson fills out the form shown in Figure S.5. The customer receives a copy of this form and the original is kept in the files to be included in the database.

|  |  |
| --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | |
| **BILL OF SALES** | |
| **Buyer's Information** | |
| First Name: | Last Name: |
| Street: | City: |
| ST / Zip: | Social Security Number: |
| Date of Birth: | Sex: ( ) Male ( ) Female |
| Phone: | Email: |
| **Seller's Information** | |
| First Name: | Last Name: |
| Street: | City: |
| ST / Zip: | Social Security Number: |
| Date of Birth: | Sex: ( ) Male ( ) Female |
| Phone: | Email: |
| **Vehicle Description** | |
| Make / Model | Mileage: |
| Year | Color: |
| Vehicle Identification Number (VIN): | |
| Options: |  |
| **Trade-In (if applicable)** | |
| Make / Model | Mileage: |
| Year | Color: |
| Vehicle Identification Number (VIN): | |
| **Warranty / Insurance** | |
| Warranty: | Extra Warranty Price: |
| Insurance Company: | Policy Number: |
| Policy Issue Date: | Policy Expiration Date: |
| **Conditions** | |
| Selling Price: | Payment Form: |
| Trade-In Price (if applicable): | Difference: |
| Finance Information (if applicable): | |
| License Fee: | License Plate: |
| Tax: | **Total Price:** |
| **Date and Signatures** | |
| Date: | |
| Buyer's Signature: | |
| Seller's Signature: | |
| Salesperson Signature: | Salesperson Name: |

**Figure S.5** Bill of Sales

**6. Mailing Form.** Since most of Friendly’s Car Dealership customers are from the surrounding area, Jim sends to various residences the form shown in figure S.6 to potential customers so they can receive prospects with offers.

|  |  |
| --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | |
| **MAILING LIST FORM** | |
| **Your information** | |
| First Name: | Last Name: |
| Street: | Apt / Unit: |
| City / ST: | Zip: |
| Date of Birth: | Sex: ( ) Male ( ) Female |
| Phone: | Email: |
| **Preferences** | |
| Car Make: | Car Model: |
| Color: | New / Used: |
| Other Preferences: | |
|  | |

**Figure S.6** Mailing List Form

**7. License Application Form.** The dealership is required to submit information as shown in Figure S.7 about each sale to the state prior to issuing a license plate for the car, including state sales tax and license fee, and submit proof of insurance coverage to the state before releasing the car to the new owner.

|  |  |
| --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | |
| **LICENSE APPLICATION** | |
| **Buyer's Information** | |
| First Name: | Last Name: |
| Street: | City: |
| ST: | Zip: |
| Social Security Number: | Driver License Number: |
| Date of Birth: | Sex: ( ) Male ( ) Female |
| Phone: | Email: |
| **Seller's Information** | |
| First Name: | Last Name: |
| Street: | City: |
| ST / Zip: | Social Security Number: |
| Phone: | Email: |
| **Vehicle Description** | |
| Make / Model | Mileage: |
| Year | Color: |
| Vehicle Identification Number (VIN): | |
| Options: |  |
| **Insurance** | |
| Insurance Company: | Policy Number: |
| Policy Issue Date: | Policy Expiration Date: |
| **License / Tax / Price** | |
| License Fee: | License Plate: |
| Tax: | **Price:** |
| Date and Signatures | |
| Date: | |
| Buyer's Signature: | |
| Seller's Signature: | |

**Figure S.7** License Application Form

**8. Customer Satisfaction Survey.** Within a month after each sale, the dealership sends a survey to the new owner asking questions about the customer’s opinion of the car, the dealership, and the salesperson as shown in figure S.8.

|  |  |
| --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | |
| **CUSTOMER SATISFACTION SURVEY** | |
| **Please mark the number which correspond to your answer: (1) Yes (2) Neutral (3) No** | |
| **DEALERSHIP** | |
| Are you satisfied with the dealership's hour of operation? ( 1 ) ( 2 ) ( 3 ) | |
| Are you satisfied with the dealership's accessibility and location? ( 1 ) ( 2 ) ( 3 ) | |
| Are you overall satisfied with the dealership services? ( 1 ) ( 2 ) ( 3 ) | |
| **SALESPERSON** | |
| Was the salesperson helpful during the process of buying the car? ( 1 ) ( 2 ) ( 3 ) | |
| Did the salesperson provide knowledgeable responses to your questions? ( 1 ) ( 2 ) ( 3 ) | |
| Did the salesperson treat you with respect? ( 1 ) ( 2 ) ( 3 ) | |
| Did the salesperson allow you to make your decision without pressure? ( 1 ) ( 2 ) ( 3 ) | |
| Are you satisfied with the service provided by the salesperson? ( 1 ) ( 2 ) ( 3 ) | |
| **VEHICLE** | |
| Are you satisfied with the vehicle purchased? ( 1 ) ( 2 ) ( 3 ) | |
| Are you satisfied with your experience of testing drive the car? ( 1 ) ( 2 ) ( 3 ) | |
| Would you buy another vehicle from this dealership? ( 1 ) ( 2 ) ( 3 ) | |
| Are you satisfied with the process of buying the vehicle? ( 1 ) ( 2 ) ( 3 ) | |
| Are you satisfied with the warranty service provided to the vehicle? ( 1 ) ( 2 ) ( 3 ) | |
| **SUGGESTIONS** | |
| Suggestions: | |
|  |  |
| **DATE** | |
| Date: | |

**Figure S.8** Customer Satisfaction Survey

**9. Customer Credit Application.** Financing service can be arranged with the manufacturer through the dealership. In order to get information to check customer credit, the following form in Figure S.9 must be filled out.

|  |  |
| --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | |
| **CUSTOMER CREDIT APPLICATION** | |
| **Personal Information** | |
| First Name: | Last Name: |
| Street: | City: |
| ST: | Zip: |
| Date of Birth: | Sex: ( ) Male ( ) Female |
| Social Security Number: | Driver License Number: |
| Phone: | Email: |
| **Professional Information** | |
| Employer: | Position: |
| Employer Street: | City: |
| ST: | Zip: |
| Monthly Income: | Years There: |
| **Bank Information** | |
| Bank Reference: | Bank Manager Account: |
| Bank Street: | City: |
| ST: | Zip: |
| Account Number: | Bank Phone: |
| **Vehicle Description** | |
| Make / Model | Mileage: |
| Year | Color: |
| Vehicle Identification Number (VIN): | |
| Options: |  |
| **Conditions** | |
| Selling Price: | Loan Amount: |
| Loan Rate: | Total Loan Amount: |
| Loan Payment Information: | |
|  | |
| **Date and Signatures** | |
| Date: | |
| Customer Signature: | |
| Dealer Signature: | Dealer Name: |
| Salesperson Signature: | Salesperson Name: |

**Figure S.9** Customer Credit Application

**Step 1.2 Format of routine reports**

1. **Employee table and monthly report summary.** This report refers to employee personal details and the number of sales made by the salesperson.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | | | | | | |
| **Salesperson Performance Report** | | | | | | |
| **Salesperson: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | **Month/Year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | |
|  | **SALESPERSON** | **VEHICLE** | **NEW/USED** | **DATE** | **PRICE** | **COMMISSION** |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |

1. **Total sales table and report Summary.** The report shows the information of total sales by a certain period:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | | | | | | |
| **Sales Performance Report** | | | | | | |
| **Month/Year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | |
|  | **VEHICLE** | **NEW/USED** | **SALESPERSON** | **DATE** | **PRICE** | **COMMISSION** |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |

1. **Summary Sales Report by Car Make.** The report shown in figure shows the sales of cars by make during a certain period.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | | | | | | | | |
| **Sales Performance Report by Make** | | | | | | | | |
| **Make: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | **Month/Year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | |
|  | **VEHICLE MODEL** | **NEW/USED** | **SALESPERSON** | **DATE** | **PRICE** | **COMMISSION** |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |

1. **Used Cars Report:** The report shown in Figure shows the total sales of used cars.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | | | | | | | |
| **Sales Performance Report by Used Vehicles** | | | | | | | |
|  |  |  | **Month/Year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | |  |
|  | **VEHICLE MODEL** | **VEHICLE YEAR** | **SALESPERSON** | **DATE** | **PRICE** | **COMMISSION** | |
| 1 |  |  |  |  |  |  | |
| 2 |  |  |  |  |  |  | |
| 3 |  |  |  |  |  |  | |
| 4 |  |  |  |  |  |  | |
| 5 |  |  |  |  |  |  | |
| 6 |  |  |  |  |  |  | |
| 7 |  |  |  |  |  |  | |
| 8 |  |  |  |  |  |  | |
| 9 |  |  |  |  |  |  | |
| 10 |  |  |  |  |  |  | |

1. **New Cars Report:** The report shown in Figure shows the total sales of used cars.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | | | | | | |
| **Sales Performance Report by New Vehicles** | | | | | | |
|  |  |  | **Month/Year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | |  |
|  | **VEHICLE MODEL** | **VEHICLE YEAR** | **SALESPERSON** | **DATE** | **PRICE** | **COMMISSION** |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |

1. **Vehicle Inventory Report**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | | | | | | | | |
| **Inventory** | | | | | | | | |
| **Month/Year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | | |
|  | **MAKE** | **MODEL** | **YEAR** | **VIN** | **COLOR** | **NEW/USED** | **MILEAGE** | **PRICE** |
| 1 |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |

1. **Vehicle Inventory report by Used Cars**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | | | | | | | |
| **Inventory - Used Vehicles** | | | | | | | |
| **Month/Year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | |
|  | **MAKE** | **MODEL** | **YEAR** | **VIN** | **COLOR** | **MILEAGE** | **PRICE** |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |

1. **Vehicle Inventory report by New Cars**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **FRIENDLY'S CAR DEALERSHIP** | | | | | | | |
| **Inventory - New Vehicles** | | | | | | | |
| **Month/Year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | |
|  | **MAKE** | **MODEL** | **YEAR** | **VIN** | **COLOR** | **MILEAGE** | **PRICE** |
| 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |

The routine report stating the data from database would display the information such as Name, Address, Phone, SSN, and Salary. This report would get generated on a daily basis starting January 2020. As the report is being generated on a daily basis it would be the statistics of the car. The information that's pulled from the database would state Car's make, model, year, mileage and VIN.

**Step 1.3** **Details Of The Dealer’s Database**

For all customer transactions, the user is greeted by a salesperson and is accompanied by the salesperson until the end of the sale. They can choose from different cars in the showroom or if they have trade-ins, the customer is then provided with instructions for filling information that is needed. The screen displays the customers information, which may also be printed out. We assume there is information to be taken from all the input forms shown earlier, and to produce the reports shown. The following are examples of what the dealership database shows:

**a) Vehicle Information Form**

When a customer chooses their car from the showroom, it is inputted in the database where details of the care is inputted, i.e the year, make, and model of the car inputted. The reasoning behind this form in the database is to keep track of vehicle inventory in the dealership.

**b) Customer Credit Application**

After the customer picks their vehicle and is inputted in the system, the salesperson has the customer fill out a form for a credit check. The form asks for basic information, once the form is filled out by the customer it will be sent to the lender.

**Step 1.4 Initial Assumptions of The Dealership Database**

1. Customer information will be inputted and recorded, so as vehicle information.
2. For privacy and security reasons, all information will be recorded in the system and a copy will be given to the customer.
3. Trade-ins will be accepted and can provide down payment for new vehicles.
4. Each documentation will be original.
5. VIN and Invoice Number are unique elements.
6. The dealership only asks for a social security number of customers in case of selling operation since payments must be reported for income tax purposes. Therefore, the dealership keeps only social security numbers for the salesperson, but not for customers or potential customers.
7. The database does not include payroll information except for the commission to be paid to the salesperson.
8. The salesperson should check the inventory list accordingly to customer desires and offer them to test drive the vehicle.
9. A vehicle can be sold for a price less than the price sticker but Jim must approve it.
10. The salesperson is evaluated monthly in order to determine if they are returning expectations of the dealership.
11. Payment for all sales is made by check, credit card, cash, bank transfer, or through financing by the dealership or private bank.
12. The salesperson is paid the commission at the end of each month where a report is presented to check expectations of sales.
13. *A customer can be an individual, a business, an organization, a group, or other such entity.*
14. *Names of customers are not unique, but names of salespeople are unique.*
15. *The same customer may purchase several cars, possibly from different salespeople.*
16. *Some customers, such as religious organizations, are tax exempt, so no tax is charged on their car purchases.*
17. *All addresses consist of street, city, state, and zip code.*
18. *All telephone numbers consist of area code and number.*
19. *The used cars for sale in the dealership are those that are traded in by customers buying new cars.*
20. *When a car is sold, it may or may not be financed.*
21. *Options are features that a new car has when it is delivered from the manufacturer, such as sun roof, air conditioning, and so on. A car may have several optional features.*
22. *The cost of options is included in the manufacturer’s list price.*
23. *Customization refers to items that are added at the dealership at the time of sale, such as an alarm system, undercoating, and so on. A car may be given several custom items.*
24. *Each custom item has an associated price.*
25. *The book value of a used car is determined by a standard publication such as the Kelley Blue Book, available to the dealership. The actual cost may differ from the book value.*
26. *When a trade-in vehicle is accepted, its VIN is immediately entered into the inventory of used cars. Other information about the car is entered later.*
27. *We are assuming that the dealer can obtain and issue registration numbers and license plates as needed. (We note that this process may be more complex in real life.)*
28. *The exact mileage at the time of sale must be recorded on the bill of sale, for both new and used cars.*