

Normalization Exercise 1

HEALTH HISTORY REPORT

<u>PET ID</u>	<u>PET NAME</u>	<u>PET TYPE</u>	<u>PET AGE</u>	<u>OWNER</u>	<u>VISIT DATE</u>	<u>PROCEDURE</u>
246	ROVER	DOG	12	SAM COOK	JAN 13/2002	01 - RABIES VACCINATION
WOUND					MAR 27/2002	10 - EXAMINE and TREAT
					APR 02/2002	05 - HEART WORM TEST
298	SPOT	DOG	2	TERRY KIM	JAN 21/2002	08 - TETANUS
VACCINATION					MAR 10/2002	05 - HEART WORM TEST
341	MORRIS	CAT	4	SAM COOK	JAN 23/2001	01 - RABIES VACCINATION
					JAN 13/2002	01 - RABIES VACCINATION
519	TWEEDY	BIRD	2	TERRY KIM	APR 30/2002	20 - ANNUAL CHECK UP
					APR 30/2002	12 - EYE WASH

Prepare UNF:

1NF:

2NF:

3NF:

Normalization Exercise 2

INVOICE

HILLTOP ANIMAL HOSPITAL
INVOICE # 987

DATE: JAN 13/2002

MR. RICHARD COOK
123 THIS STREET
MY CITY, ONTARIO
Z5Z 6G6

<u>PET</u>	<u>PROCEDURE</u>	<u>AMOUNT</u>
ROVER	RABIES VACCINATION	30.00
MORRIS	RABIES VACCINATION	24.00
	TOTAL	54.00
	TAX (8%)	<u>4.32</u>
	AMOUNT OWING	<u>58.32</u>

Prepare UNF: 1NF: 2NF: 3NF:

Normalization Exercise 3

ABC MANUFACTURING CUSTOMER ORDER AND PRODUCT APPLICATION

The ABC Manufacturing company has a completely automated application system. The system, however, resides on index files and does not allow for decision support at all. In order to move to ad hoc queries, and "what if" queries, the company has decided to convert the existing system to a database.

Initially, the only criterion for the application is to replace the existing system with a database system. No ad hoc screen or reports have been anticipated. You will see the reports and screens that exist currently.

Use this case to perform the task that the module has asked of you.

Customer Order and Product Application Considerations

1. Each customer must be on file before an order can be placed. The name, address(s), phone number(s), and credit limit must be recorded. All other data items are optional. If there is no shipping address, then the mailing address is used instead. Since customers can have identical names, a customer id has been assigned to each customer.
2. Each order will have a computer generated id number. The order can have up to 10 line items. Discounts can be given to preferred customers and this discount amount will be recorded on the customer's record. Customers without a discount amount will not be given a discount.
3. Each product listed on the order will show the standard price for that product. Discounts will be shown at the bottom of the order form.
4. Orders that can be filled or partially filled are shipped immediately, and the product data is updated accordingly. Orders, or partial orders that cannot be filled will be backordered.
5. As products are manufactured the product data is updated accordingly along with the part inventory data.
6. A customer can place numerous orders. Products can be ordered by many different customers. The same part can be used in numerous products. (eg. a screw can be used in a chair, bar stool etc.)

[illegible]

<u>PRODUCT CODE</u>	<u>DESCRIPTION</u>	<u>QTY ON HAND</u>	<u>QTY BACKORDERED</u>	<u>PRICE</u>
CH089	PATIO CHAIRS	140	0	35.00
FR223	HALF SIZE REFRIGERATOR	10	0	750.99
TB101	PATIO TABLE	0	2	35.00
	.			
	.			
	.			

<u>PRODUCT CODE</u>	<u>DESCRIPTION</u>	<u>PART NUMB.</u>	<u>PART DESCRIPTION</u>	<u>QTY REQUIRED</u>
CH089	PATIO CHAIRS	WOOD223	1 X 2 - 30" WOOD	8
		SCRW110	1.25" SCREWS	26
		.		
		.		

		.		
TB101	PATIO TABLE	WOOD995	2 X 4 - 48" WOOD	12
		SCRW110	1.25" SCREWS	34
		.		
		.		
		.		

Prepare UNF: 1NF: 2NF: 3NF:

Normalization Exercise 4

Gallery Customer History Form			
<div>Customer Name</div>			
Jackson, Elizabeth 123 - 4 th Avenue Fonthill, ON L3J 4S4		Phone (206) 284-6783	
<div>Purchases Made</div>			
Artist	Title	Purchase Date	
Sales Price			
03 - Carol Channing	Laugh with Teeth	09/17/2000	
7000.00			
15 - Dennis Frings	South toward Emerald Sea	05/11/2000	
1800.00			
03 - Carol Channing	At the Movies	02/14/2002	
5550.00			
15 - Dennis Frings	South toward Emerald Sea	07/15/2003	
2200.00			

The Gill Art Gallery wishes to maintain data on their customers, artists and paintings. They may have several paintings by each artist in the gallery at one time. Paintings may be bought and sold several times. In other words, the gallery may sell a painting, then buy it back at a later date and sell it to another customer.

Prepare UNF: 1NF: 2NF: 3NF:

Normalization Exercise 5:**Good News Grocers****User View 1 - Price Update List**

Department	Product Code	Aisle Number	Price	Unit of Measure
Produce	4081	1	0.35	lb
Produce	4027	1	0.90	ea
Produce	4108	1	1.99	lb
Butcher	331100	5	1.50	lb
Butcher	331105	5	2.40	lb
Butcher	332110	5	5.00	lb
Freezer	411100	6	1.00	ea
Freezer	521101	6	1.00	ea
Freezer	866503	6	5.00	ea
Freezer	866504	6	5.00	ea

This report is used by the department managers to update the prices that are displayed in the grocery store for these products.

Prepare UNF: 1NF: 2NF: 3NF:

Normalization Exercise 6:

Gofar Travel Vehicles sells new and used recreational vehicles. When new vehicles arrive at Gofar Travel Vehicles from the manufacturer, a new vehicle record is created. Included in the new vehicle record is the following information: vehicle identification number (VIN), name, model, year, name of manufacturer, and cost or amount paid to the manufacturer..

When a customer arrives at Gofar Travel Vehicles, he/she works with a salesperson to discuss a vehicle purchase. The customer can purchase a new or used vehicle. On the new vehicle the customer can add options like a microwave, special lighting, fridge, stove, better seats etc.

When the purchase has been agreed to, a sales invoice is completed by the salesperson. The invoice summarizes the details of the purchase. It will include all customer information, information on the vehicle being purchased and any options (if any), information on the trade-in vehicle and the trade-in dollar amount allowed (if a trade in exists). If the customer requests dealer-installed options, they will be listed on the invoice as well as the price. The invoice also summarizes the final price, plus any applicable taxes (7%) and license fees. The transaction concludes with a customer signature on the sales invoice.

Customers are assigned a customer ID when they make their first purchase from Gofar Travel Vehicles. Name, address, and phone number are recorded for the customer. If there is a trade-in vehicle it is described by a serial number, make, model, and year. Dealer installed options are described by an option code, description, cost from the manufacturer and selling price.

Each invoice will list just one customer and one vehicle sold. It is rare but if a customer wants 2 vehicles then it requires two invoices be prepared. A person does not become a customer until they purchase a vehicle. Over time, a customer may purchase a number of vehicles from Gofar Travel Vehicles.

Every invoice must be filled out by only one salesperson. A new salesperson may not have sold any vehicles, but experienced salespeople have sold many vehicles.

A customer may decide to have no options added to the vehicle, or may choose to add many options. The optional equipment (stove, fridge, fire extinguisher) is stored in the warehouse. An option like a fire extinguisher can be installed on different types of vehicles.

A customer may trade in only one vehicle toward the purchase of a new vehicle. The trade in vehicle may be sold later to another customer, who later trades it in on another Gofar Travel Vehicle. The same vehicle over time can be sold several times.

1) Design the database to handle the above.

There are assumptions to be made.

For this case the selling price is the price the product sells for. There is no negotiating a lower price. This applies to options and the vehicle.

2) What changes to the design would you make if the price shown was a suggested price, but the vehicle could be sold for some other negotiated price.