Database Concepts Assignment Set 1

Instructions:

1. Please type the answers below the questions directly. You may insert tables or figures. Scans of handwritten papers are not acceptable.
2. When it is done, rename the file to firstname-lastname.docx, export it into a PDF file, and submit it to Canvas by the deadline.
3. Academic integrity is strictly reinforced. Detected plagiarized works will receive zero point and potentially a failure of the whole course.

Problem description:

Garden Glory is a partnership that provides gardening and yard maintenance services to individuals and organizations. Garden Glory is owned by two partners. They employ two office administrators and a number of full- and part-time gardeners. Garden Glory will provide one-time garden services, but it specializes in ongoing service and maintenance. Many of its customers have multiple buildings, apartments, and rental houses that require gardening and lawn maintenance services.

Problems:
A. *Create a sample list of owners and properties. Your list will be similar in structure to that in the tables presented in the class, but it will concern owners and properties rather than students and advisors. Your list should include, at the minimum, owner name, phone, and billing address, as well as property name, type, and address. One example is provided below, you can list up to 4 examples.*

PropertyName	PropertyType	Address	OwnerName	OwnerPhone	BillingAddress
Jones Home	Residence	Elm St	E.J. Jones	223-1111	2nd Street

Solution:

PropertyName	PropertyType	Address	OwnerName	OwnerPhone	BillingAddress
Rose and Womble	Residence	49th Street	Chandler	757-12345	0149 W, 49th Street
Oasis	Office	41st Street	Blake	757-23567	1055, 17th Street
FSN Co	Office	23rd Street	Fallon	757-57412	1065, 34th Street
Carrington Manor	Residence	34th Street	Blake	757-23567	1064 W, 22nd Street

B. *Describe modification problems that are likely to occur if Garden Glory attempts to maintain the list in a spreadsheet.*

Solution:

In case the owner changes his contact number, then, there will arise a need to change multiple rows. In case, the contact number is entered incorrectly, discrepancies will arise because one row will not agree with the other rows. There could be inconsistencies in entering the phone numbers. Also, there is no way of documenting owners who don't have any property yet.

C. *Split the list into tables such that each has only one theme. Create appropriate ID columns. Use a linking column to represent the **general** relationship between a property and an owner. Demonstrate that the modification problems you identified in part B have been eliminated.*

Property Table

PropertyName	PropertyType	Address	*OwnerID*
Rose and Womble	Residence	49th Street	123400
Oasis	Office	41st Street	123401
FSN Co	Office	23rd Street	123402
Carrington Manor	Residence	34th Street	123401

Owner Table

OwnerID	OwnerName	OwnerPhone	BillingAddress
123400	Chandler	757-12345	0149 W, 49th Street
123401	Blake	757-23567	1055, 17th Street
123402	Fallon	757-57412	1065, 34th Street
123401	Blake	757-23567	1064 W, 22nd Street

D. *Create a sample list of owners, properties, and services. Your list will be similar to that in part A. Your list should include the data items from part A as well as the date, description, and amount charged for each service. For the sake of space, you can use 1-2 words in the description field. An example is provided below.*

PropertyName	Type	Address	OwnerName	OwnerPhone	BillingAddress	Date	Desc	Charge
Jones Home	Residence	Elm St	E.J. Jones	223-1111	2nd Street	2/2/18	new floor	125.00

Solution:

PropertyName	Type	Address	OwnerName	OwnerPhone	BillingAddress	Date	Desc	Charge
Rose and Womble	Residence	49th Street	Chandler	757-12345	0149 W, 49th Street	10/02/22	Re-potting	145.00
Oasis	Office	41st Street	Blake	757-23567	1055, 17th Street	09/30/22	Trimming grass	80.00
FSN Co	Office	23rd Street	Fallon	757-57412	1065, 34th Street	09/09/22	Deweeding	120.00
Carrington Manor	Residence	34th Street	Blake	757-23567	1064 W, 22nd Street	10/01/22	Monthly pest control	250.00

E. *Split the list from part D into tables such that each has only one theme. Create appropriate ID columns. Use the concise notation. Highlight linking columns using* Italic font*.*

Solution:

OWNER (*OwnerID*, Owner, OwnerPhone, BillingAddress)
PROPERTY (*OwnerID* , PropertyID, Name, Type, Address)

SERVICE (*OwnerID*, *PropertyID*, ServiceID, Date, Desc, Charge)