ASSIGNMENT 3

Group – 10%

This assignment has been designed to make the students design their first database with more than one table focusing on relationships between tables.

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COMP 2003 Relational databases

Assignment 3 – Relational Databases

This assignment requires you to apply your understanding of table relationships including Primary and Foreign Keys and Cardinality (i.e. relationships between tables, such as one-to-one, many-to-one and one-to-many). You will also combine your knowledge of INSERT, SUBSTR and SELECT statements to build carefully constructed statements to copy data from one table to another. Your mark in this assignment counts for 10% of your final grade.

Assignment Requirements:

This assignment is to be completed in groups of 3-5 people.

SQL formatting

- Please include your full names and student numbers
- Part One will require much of your work to be completed in MySQL, name your SQL script Group*Number*_Assignment3.sql and complete all of your SQL work in this file. Ensure to use the data from the my_contacts_a3.sql file to populate your database.
- Inside Group*Number*_Assignment3.sql I should find all your SQL commands required to complete the assignment.
- The data provided (my_contacts_a3.sql) is solely for the purpose of populating your database with data – do not complete your SQL work in this file.
- Utilize the SQL Standards document provided in week 2 – with note to capitalization of keywords and lower-case database, table and field names.
- Statements should be broken over multiple lines as appropriate
- Remember to add a brief descriptive comment for each query. You do not need to document every single line, but please annotate the purpose or function of the statement. You must demonstrate that you understand what the SQL is doing.
- Please write in complete sentences in the commenting for relevant questions.

Report formatting

- Name your report file Group*Number*_Assignment3.docx
- Give your report an appropriate title with separate title page.
- Please include your full names and student numbers.
- Part Two will require much of your work to me completed in a word processor; name your document Group*Number*_Assignment3.docx as its file name.
- For each question, please include the questions' number and text.
- When providing documentation of a SQL query, please include the text of your query (including comments, and a screenshot which clearly shows the execution of your commands and the results. You might need to send more than one screenshot to show the results for each question).

Submitting your assignment

- Create a zip file containing your SQL script and report
- Submit assignment zip file via the course website. Do not submit via email.

Evaluation Method

For each question you will receive the following marks:

- Execution: A variable number of marks will be assigned whether the command will run as provided.
- Accuracy: A variable number of marks will be assigned whether the question is answered correctly.

Additionally, the following marks will be assigned to the SQL script as a whole

- Structure: Up to **16 marks** will be assigned for well-structured scripts that follow SQL standards. i.e. capitalized commands, lower case field names with underscores where needed, new lines, etc.
- Commenting: Up to **10 marks** will be assigned for helpful, descriptive comments to be included throughout the script

If you have any questions, please do not hesitate to ask me.

Good luck.

Part One:

Step 1 – You have been provided a SQL script containing data for a table called *my_contacts*. Import this data into a new database that you create for the purpose of this assignment – name the database appropriately. Please include the importation process in your Group*Number*_Assignment3.sql file.

Execution: 2 marks

Accuracy: 1 mark

Step 2 – Using one insert statement, add 10 more users to this table. Please devise fictitious contact information for this purpose please. Decide whether your import statement requires field mapping. If it does, include it, and if it does not, exclude it.

Execution: 1 mark

Accuracy: 4 marks

Step 3 – In the *my_contacts* table you will find two columns that are violating First Normal Form by storing multiple values within each column.

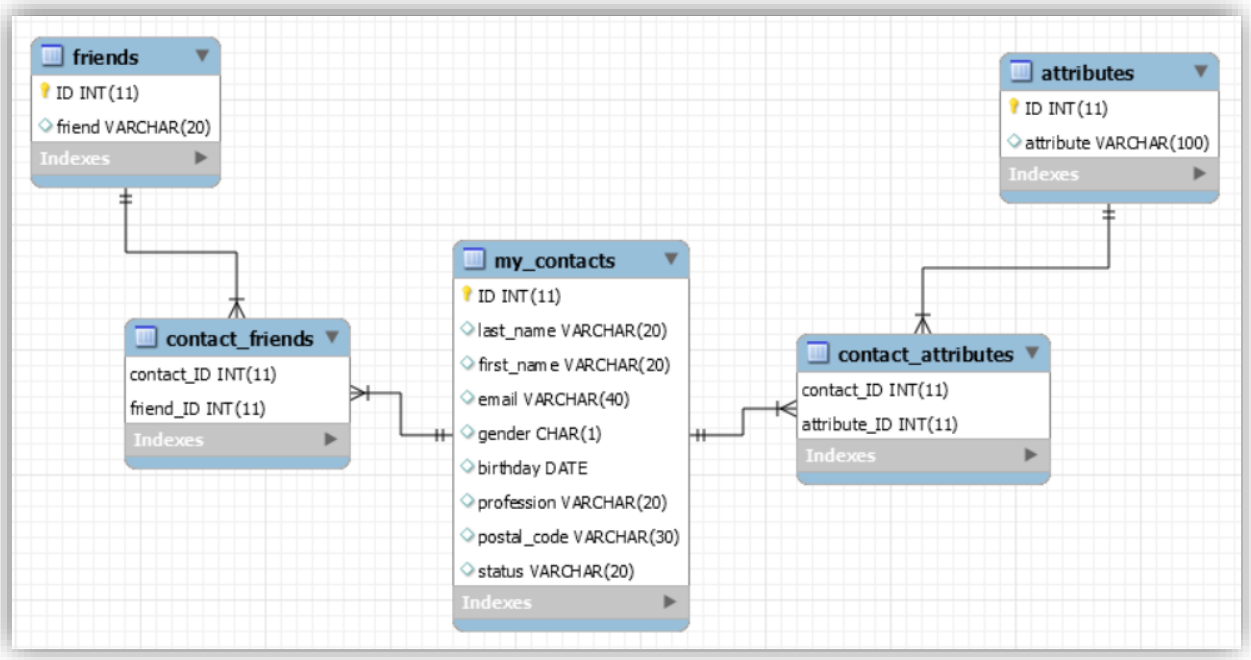
Use your knowledge of working with string values, multi-table operations and joins to extract the data from *my_contacts* and store the data according to this schema; there is an ERD provided below to assist you.

Please establish appropriate composite primary IDs for the junction tables, and otherwise use the ERD should explain the primary and foreign keys that need to be established.

Please remove any empty/unwanted columns after you have completed your work

Execution: 18 marks

Accuracy: 55 marks



Part two:

See below 3 invoices that have been generated using data from the Georgian Dog Hospital. Please build a SQL script that will both create the database and insert the data that would have been used to generate the invoices. After the database is complete, export an Entity Relationship Diagram illustrating the data model you have developed showing all necessary tables, fields and relationships. Include the ERD in your report along with a summary of relevant design considerations.

You will earn marks by ensuring the database has:

The ability of database to properly store provided data	**12 marks**
Data is kept unique through correctly defined primary keys	**12 marks**
Table relationships are properly established using foreign keys	**15 marks**
Taxes and totals are stored, or commands are provided to calculate	**1 marks**

INVOICE #1

GEORGIAN DOG HOSPITAL	DATE: JAN 13/2023	INVOICE # 987
MR. RICHARD COOK		
123 THIS STREET MY CITY, ONTARIO Z2Z 7G1		
PET	**PROCEDURE**	**AMOUNT**
ROVER	RABIES VACCINATION	30.00
MORRIS	RABIES VACCINATION	30.00
TOTAL		54.00
TAX (13%)		7.02
AMOUNT OWING		61.02

INVOICE #2

GEORGIAN DOG HOSPITAL	DATE: JAN 14/2023	INVOICE # 988
MRS. DENISE RODMAN		
246 THAT STREET ANOTHER CITY, ONTARIO A1A 1A1		
PET	**PROCEDURE**	**AMOUNT**
CHEW BARKA	SWALLOWED SOCK	3000.00
MARY PUPPINS	BLOOD WORK	150.00
TOTAL		3,150.00
TAX (13%)		409.50
AMOUNT OWING		3,559.5

INVOICE #3

GEORGIAN DOG HOSPITAL	DATE: JAN 15/2023	INVOICE # 989
MR. COREY OLIS		
5124 TOWNLINE, NEW LOWELL, ONTARIO L0M 1N0		
PET	**PROCEDURE**	**AMOUNT**
STORM	LEG SURGERY	4000.00
FLASH	EXAMINATION	30.00
TOTAL		4,030.00
TAX (13%)		523.9
AMOUNT OWING		4,553.9