DBS201 Lab 1: Entity Relationships Types and the ERD

**Purpose:**

* **To determine the CONNECTIVITY type of relationships (1:1, 1:M, M:N) between the major tables (entities) of the PREMIERE database.**
* **To draw the ERD for the PREMIERE database.**

**How to Submit: Demonstration in Class only (you may write down the answers and draw diagram, check the deadline from course agenda and policies)**

1. **Signing On:**

Find and double click the **iSeries Navigator** icon on the desktop. This starts the GUI interface to the **iSeries**.

Sign on to ZEUS server by double click on **zeus.senecac.on.ca** with provided Login name and Password. Then expand the **Databases** option. Next expand the **Schemas** and you will see only one schema called QGPL.

1. **Add Schema PREMIERE to the list:**

* right click on **Schemas**
* choose "select **schemas** to display" (do not choose "new schema" as this is used to actually create a new one).
* In the "select **schemas** to display" window, enter PREMIERE
* Click **Add**
* Click **OK** to exit the window and save your change

**3. Open the PREMIERE schema by double clicking on it.**

Now double click on **Tables** to see them all in the right pane (ignore ones that start with QID). You will see 4 or 5 Tables (its ok if you see more).

1. We will now determine the numeric relationship between CUSTOMER and SALESREP entities. This is called CONNECTIVITY.

a) Open the CUSTOMER table to see all rows (records) by doing Right click, then select View Contents. Do NOT double click on it, that will give you the structure and constraints of the table. Examine the data in the Sales\_Rep\_Number column.

What is the Sales Rep Number for customer Don Charles: \_\_\_12\_\_\_\_

What is the Sales Rep Number for customer Al Williams: \_\_\_\_\_\_\_

What is the Sales Rep Number for customer Mary Nelson: \_\_12\_\_\_\_\_

For one row in the CUSTOMER table, how many rows exist in SALESREP? \_\_1?\_\_\_\_

1. Now, open the SALESREP table (right click to view contents).

What is the name of Rep Number is 12: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This sales rep has many customers (Don Charles, Al Williams and Mary Nelson).

For one row in the SALESREP table, how many rows exist in CUSTOMER? \_\_\_\_\_\_

1. As one row in the CUSTOMER table points to one row in SALESREP, and one row in the SALESREP table has many rows in CUSTOMER, we call this a

one-to-many relationship.

On an ERD (Entity Relationship Diagram) this will be shown as:

CUSTOMER

SALESREP

**M**

**1**

The connectivity of the relationship between the SALESREP and CUSTOMER tables is **one-to-many** which we show as **1:M**.

1. We will now determine the numeric relationship between ORDERS and CUSTOMER entities.

a) Open the ORDERS table. Examine the values in the Order\_Number column. The values of order number are unique because each row of the table represents a different order. (Please ask your instructor if you are not sure what an order is.)

In the ORDERS table there is an attribute called customer\_number.

b) How many values of customer number are there per order: \_\_\_\_\_\_\_

Are the values of customer number in the the ORDERS table unique? \_\_\_\_\_\_\_

How many orders does customer 124 have? \_\_\_\_\_\_\_

How many orders does customer 522 have? \_\_\_\_\_\_\_

What is the connectivity of the relationship (1:1, 1:M, M:N) between the ORDERS and CUSTOMER tables? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. As one row in the ORDERS table has one and only one row in CUSTOMER, and one row in the CUSTOMER has many rows in ORDERS table, we call this a one-to-many relationship (1:M)

On an ERD (Entity Relationship Diagram) this will be shown as:

CUSTOMER

ORDERS

**1**

**M**

The connectivity of the relationship between the CUSTOMER and ORDERS tables is **one-to-many** which we show as **1:M**.

1. We will now determine the numeric relationship between ORDERS and ORDERLINE.

You might have noticed that the ORDERS table does not contain much information about what the customer has ordered! Open the ORDERLINE table to see order details.

Each row in the ORDERLINE table represents one line on a particular order. You can determine which order the row belongs to by looking at the Order\_number column.

How many lines exist for order # 12489: \_\_\_\_\_

How many lines exist for order # 12491: \_\_\_\_\_

How many lines exist for order # 12498\_\_\_\_\_

Notice that any one row in ORDERS has many rows in the ORDERLINE table and that one row in the ORDERLINE table is attached to one and only one order.

What is the connectivity of relationship (1:1, 1:M, M:N) between the ORDERS and ORDERLINE tables? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

On an ERD this will be shown as:

ORDERS

ORDERLINE

**1**

**M**

1. Look at the PART table and determine the connectivity of relationship (1:1, 1:M, M:N) between the PART and ORDERLINE tables: (Tricky one : Look carefully for how many orders for each part, and vice versa)

***To be handed in:***

**Last Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**First Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Section: \_\_\_\_\_\_\_\_\_**

1. Draw the ERD for the Premiere Products database by using CHEN method.

Include all 5 tables on one connected diagram (just put the relationship diagrams together). Make sure that your name and student number are on your submission.