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COEN 353 - Assignment 1

PART I:

a) Code

```
CREATE TABLE donors (  
    donorID INT(100) NOT NULL AUTO_INCREMENT,  
    firstName VARCHAR(100) NOT NULL,  
    lastName VARCHAR(100) NOT NULL,  
    middleInitial VARCHAR(1) NOT NULL,  
    dateOfBirth DATE,  
    address VARCHAR(100) NOT NULL,  
    city VARCHAR(100) NOT NULL,  
    postalCode VARCHAR(100) NOT NULL,  
    province VARCHAR(100) NOT NULL,  
    gender VARCHAR(100) NOT NULL,  
    SSN VARCHAR(100) NOT NULL,  
    PRIMARY KEY(donorID)  
);
```

```
CREATE TABLE donations (  
    dID INT(100) NOT NULL AUTO_INCREMENT,  
    donorID INT(100),  
    date DATE,  
    type VARCHAR(100),  
    amount DECIMAL(20, 2),  
    PRIMARY KEY(dID),  
    FOREIGN KEY (donorID) REFERENCES donors(donorID)  
);
```

```
CREATE TABLE products (  
    pID INT(100) NOT NULL AUTO_INCREMENT,  
    description VARCHAR(100),  
    date DATE,  
    price DECIMAL(20, 2),  
    weight DECIMAL(20, 2),  
    isInStock BOOLEAN,  
    PRIMARY KEY(pID)  
);
```

```
CREATE TABLE sales (  
    sID INT(100) NOT NULL AUTO_INCREMENT,  
    date DATE,  
    amount DECIMAL(20, 2),  
    deliveryFee DECIMAL(20, 2),  
    PRIMARY KEY(sID)  
);
```

```
CREATE TABLE salesItems (  
    sID INT(100) NOT NULL AUTO_INCREMENT,  
    pID INT(100) NOT NULL,  
    FOREIGN KEY (sID) REFERENCES sales(sID),  
    FOREIGN KEY (pID) REFERENCES products(pID),  
    PRIMARY KEY (sID, pID)  
);
```

a) Results

The screenshot displays the phpMyAdmin web interface. On the left, a tree view shows the database structure for 'myfirstdatabase', including tables like 'donations', 'donors', 'products', 'sales', and 'salesitems'. The 'products' table is selected, and its structure is shown in the center panel. The table has columns: pID (PRIMARY, int), description (varchar, NULL, nullable), date (date, NULL, nullable), price (decimal, NULL, nullable), weight (decimal, NULL, nullable), and isInStock (tinyint, NULL, nullable). The right panel shows the SQL query 'SELECT * FROM `products`' and the result: 'MySQL returned an empty result set (i.e. zero rows). (Query took 0.0001 seconds.)'. Below the query, there are buttons for 'Profiling', 'Edit inline', 'Edit', 'Explain SQL', 'Create PHP code', and 'Refresh'. A table header is visible: pID, description, date, price, weight, isInStock. Below the table header, there are buttons for 'Query results operations' and 'Create view'. At the bottom, there is a 'Bookmark this SQL query' section with a label input field and a checkbox 'Let every user access this bookmark'. A 'Bookmark this SQL query' button is also present.

Server: 127.0.0.1 Database: myfirstdatabase Table: products

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0001 seconds.)

```
SELECT * FROM `products`
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

pID	description	date	price	weight	isInStock
-----	-------------	------	-------	--------	-----------

Query results operations

Create view

Bookmark this SQL query

Label: ☐ Let every user access this bookmark

Bookmark this SQL query

b) Code

```
ALTER TABLE donors
DROP COLUMN middleInitial;
```

b) Results

-Before

The screenshot shows the phpMyAdmin interface. On the left, the database structure tree is visible, with 'myfirstdatabase' expanded to show the 'donors' table. The 'Columns' tab for 'donors' is selected, displaying the following columns: address (varchar), city (varchar), dateOfBirth (date, NULL, nullable), donorID (PRI, int), firstName (varchar), gender (varchar), lastName (varchar), middleInitial (varchar), postalCode (varchar), province (varchar), and SSN (varchar). On the right, the 'SQL' tab is active, showing a successful query result: 'MySQL returned an empty result set (i.e. zero rows). (Query took 0.0001 seconds.)'. The query is 'SELECT * FROM `donors`'. Below the query, the table structure is displayed with columns: donorID, firstName, lastName, middleInitial, dateOfBirth, address, city, postalCode, province, gender, and SSN. The 'Query results operations' section includes a 'Create view' button. The 'Bookmark this SQL query' section has a label input field and a checkbox 'Let every user access this bookmark'.

-After

The screenshot shows the phpMyAdmin interface after the 'middleInitial' column has been dropped. The left sidebar shows the same database structure, but the 'donors' table is now listed under 'Columns' without the 'middleInitial' column. On the right, the 'SQL' tab is active, showing the same successful query result: 'MySQL returned an empty result set (i.e. zero rows). (Query took 0.0001 seconds.)'. The query is 'SELECT * FROM `donors`'. Below the query, the table structure is displayed with columns: donorID, firstName, lastName, dateOfBirth, address, city, postalCode, province, gender, and SSN. The 'Query results operations' section includes a 'Create view' button. The 'Bookmark this SQL query' section has a label input field and a checkbox 'Let every user access this bookmark'.

c) Code

```
ALTER TABLE donors
ADD phone VARCHAR(100) DEFAULT 'unknown',
ADD email VARCHAR(100) DEFAULT 'unknown';
```

c) Results

-Before

The screenshot shows the phpMyAdmin interface with the 'donors' table selected. The table structure is displayed in the 'Table structure' tab. The table has 10 columns: donorID (int(100), PRIMARY, AUTO_INCREMENT), firstName (varchar(100)), lastName (varchar(100)), dateOfBirth (date), address (varchar(100)), city (varchar(100)), postalCode (varchar(100)), province (varchar(100)), gender (varchar(100)), and SSN (varchar(100)). The 'donorID' column is the primary key.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	donorID	int(100)			No	None		AUTO_INCREMENT	Change Drop More
2	firstName	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
3	lastName	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
4	dateOfBirth	date			Yes	NULL			Change Drop More
5	address	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
6	city	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
7	postalCode	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
8	province	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
9	gender	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
10	SSN	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More

-After

The screenshot shows the phpMyAdmin interface with the 'donors' table selected. The table structure is displayed in the 'Table structure' tab. The table now has 12 columns: donorID (int(100), PRIMARY, AUTO_INCREMENT), firstName (varchar(100)), lastName (varchar(100)), dateOfBirth (date), address (varchar(100)), city (varchar(100)), postalCode (varchar(100)), province (varchar(100)), gender (varchar(100)), SSN (varchar(100)), phone (varchar(100)), and email (varchar(100)). The 'donorID' column is the primary key.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	donorID	int(100)			No	None		AUTO_INCREMENT	Change Drop More
2	firstName	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
3	lastName	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
4	dateOfBirth	date			Yes	NULL			Change Drop More
5	address	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
6	city	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
7	postalCode	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
8	province	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
9	gender	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
10	SSN	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
11	phone	varchar(100)	utf8mb4_general_ci		Yes	unknown			Change Drop More
12	email	varchar(100)	utf8mb4_general_ci		Yes	unknown			Change Drop More

d) Code

```
INSERT INTO products (pID, description, date, price, weight, isInStock)
VALUES (1, 'product_1', '2023-07-13', 1.00, 100.00, false);

INSERT INTO products (pID, description, date, price, weight, isInStock)
VALUES (2, 'product_2', '2023-07-14', 10.00, 10.00, true);

INSERT INTO products (pID, description, date, price, weight, isInStock)
VALUES (3, 'product_3', '2023-07-15', 100.00, 1.00, true);
```

d) Results

The screenshot shows the phpMyAdmin interface for a MySQL database named 'myfirstdatabase'. The 'Table: products' is selected. The SQL query executed is `SELECT * FROM `products``. The results show 3 rows, with the first two rows displayed. The interface includes a sidebar with a database tree, a top navigation bar, and a main content area with various options like 'Browse', 'Structure', 'SQL', 'Search', 'Insert', 'Export', 'Import', 'Privileges', 'Operations', 'Tracking', and 'More'.

Showing rows 0 - 2 (3 total, Query took 0.0001 seconds.)

`SELECT * FROM `products``

☐ Profiling [\[Edit inline \]](#) [\[Edit \]](#) [\[Explain SQL \]](#) [\[Create PHP code \]](#) [\[Refresh \]](#)

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	pID	description	date	price	weight	isInStock
<input type="checkbox"/> Edit Copy Delete	1	product_1	2023-07-13	1.00	100.00	0
<input type="checkbox"/> Edit Copy Delete	2	product_2	2023-07-14	10.00	10.00	1
<input type="checkbox"/> Edit Copy Delete	3	product_3	2023-07-15	100.00	1.00	1

☐ Check all | With selected: [Edit](#) [Copy](#) [Delete](#) [Export](#)

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

[Print](#) [Copy to clipboard](#) [Export](#) [Display chart](#) [Create view](#)

[Bookmark this SQL query](#)

Label: ☐ Let every user access this bookmark

[Bookmark this SQL query](#)

e) Code

```
DELETE FROM products;
```

e) Results

The screenshot shows the phpMyAdmin interface. On the left is the database structure tree with 'myfirstdatabase' selected. The main panel shows the 'products' table selected. A green message bar at the top states: 'MySQL returned an empty result set (i.e. zero rows). (Query took 0.0001 seconds.)'. Below this, the SQL query 'SELECT * FROM `products`' is displayed. The table structure is shown with columns: pID, description, date, price, weight, and isInStock. The 'Query results operations' section is visible, including a 'Create view' button and a 'Bookmark this SQL query' section with a label input field and a checkbox 'Let every user access this bookmark'.

f) Code

```
DROP TABLE salesItems;  
DROP TABLE sales;  
DROP TABLE products;  
DROP TABLE donations;  
DROP TABLE donors;
```

f) Results

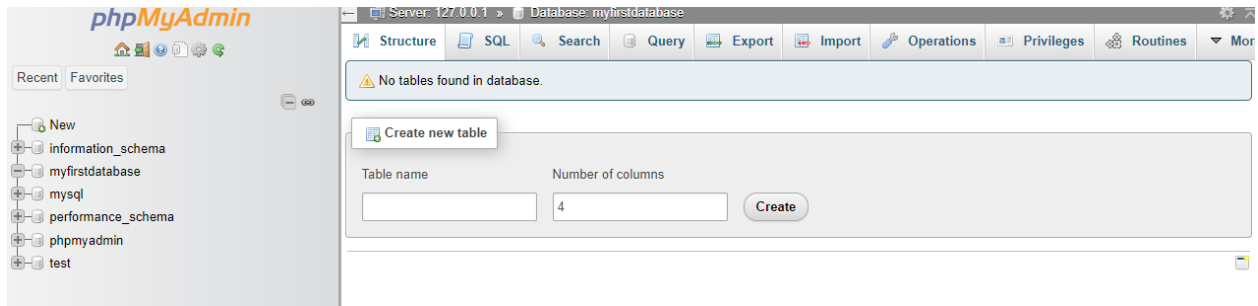
-Before

The screenshot shows the phpMyAdmin interface with the 'Structure' tab selected. A 'Filters' section is at the top with a search input. Below is a table listing the database structure:

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> donations		0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
<input type="checkbox"/> donors		0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> products		0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> sales		0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> salesItems		0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
5 tables	Sum	0	InnoDB	utf8mb4_general_ci	112.0 KiB	0 B

At the bottom, there is a 'Check all' checkbox and a 'With selected:' dropdown menu.

-After

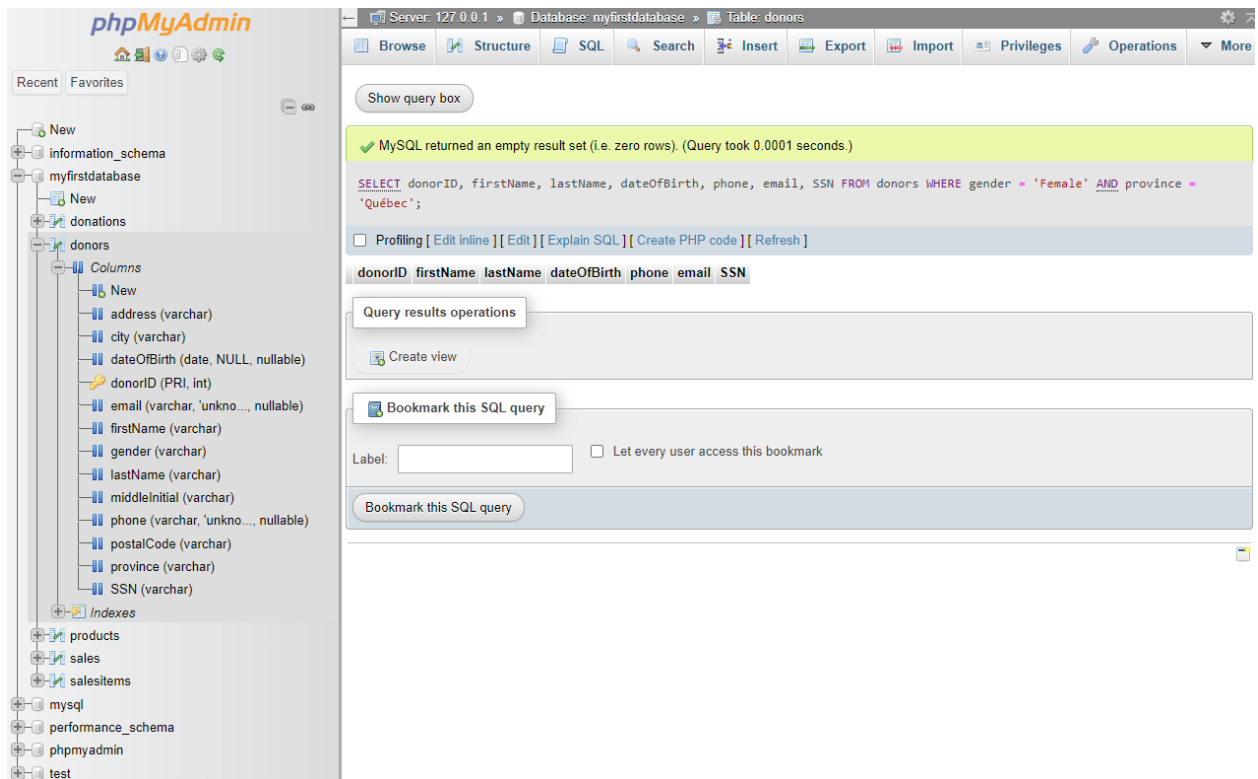


PART II:

a) Code

```
SELECT donorID, firstName, lastName, dateOfBirth, phone, email, SSN
FROM donors
WHERE gender = 'Female' AND province = 'Québec';
```

a) Results



b) Code

```
SELECT salesItem.sID, salesItem.pID, product.description,  
product.price, product.weight  
FROM salesItems salesItem  
JOIN sales sale ON sale.sID = salesItem.sID  
JOIN products product ON product.pID = salesItem.pID  
WHERE sale.date = '2023-07-01' AND sale.deliveryFee > 0;
```

b) Results

The screenshot displays the phpMyAdmin web interface. On the left, a sidebar shows the database structure, including a tree view of the 'myfirstdatabase' schema with tables like 'donations', 'donors', 'products', 'sales', and 'salesItems'. The 'donors' table is expanded, showing its columns: address, city, dateOfBirth, donorID, email, firstName, gender, lastName, middleInitial, phone, postalCode, province, and SSN. The main panel on the right shows the 'SQL' tab selected. It contains a text area with the SQL query from the previous block. Below the query, a green message box states: 'MySQL returned an empty result set (i.e. zero rows). (Query took 0.0001 seconds.)'. Below this, the query is repeated in a syntax-highlighted format. Further down, there are buttons for 'Query results operations', 'Create view', 'Bookmark this SQL query', and a 'Bookmark this SQL query' button with a label input field and a checkbox for 'Let every user access this bookmark'.

c) Code

```
SELECT SUM(deliveryFee) AS allDeliveryFees
FROM sales
WHERE date >= '2023-06-01' AND date <= '2023-06-30';
```

c) Results

The screenshot displays the phpMyAdmin web interface. On the left, a sidebar shows the database structure with 'myfirstdatabase' selected, containing tables like 'donations', 'donors', 'products', 'sales', and 'salesitems'. The 'sales' table is currently selected. The main panel shows the 'SQL' tab with the query: `SELECT SUM(deliveryFee) AS allDeliveryFees FROM sales WHERE date >= '2023-06-01' AND date <= '2023-06-30';`. A message indicates that the current selection does not contain a unique column, so grid edit, checkbox, Edit, Copy, and Delete features are not available. The query results show 1 row with the value '0' for 'allDeliveryFees'. Below the results, there are options for 'Query results operations' (Print, Copy to clipboard, Export, Display chart, Create view) and a 'Bookmark this SQL query' section.

Server: 127.0.0.1 » Database: myfirstdatabase » Table: sales

Browse Structure SQL Search Insert Export Import Privileges Operations More

Show query box

⚠ Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

✓ Showing rows 0 - 0 (1 total. Query took 0.0001 seconds.)

`SELECT SUM(deliveryFee) AS allDeliveryFees FROM sales WHERE date >= '2023-06-01' AND date <= '2023-06-30';`

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

allDeliveryFees
NULL

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Query results operations

[Print](#) [Copy to clipboard](#) [Export](#) [Display chart](#) [Create view](#)

[Bookmark this SQL query](#)

Label: ☐ Let every user access this bookmark

[Bookmark this SQL query](#)

d) Code

```
SELECT MONTH(date) AS month, COUNT(*) AS allSales, SUM(amount) AS  
allAmount, SUM(deliveryFee) AS allDeliveryFees  
FROM sales  
WHERE date >= '2022-01-01' AND date <= '2023-12-31'  
GROUP BY MONTH(date);
```

d) Results

The screenshot shows the phpMyAdmin interface. On the left is the database structure tree, highlighting the 'sales' table under the 'myfirstdatabase' schema. The main panel displays the results of a SQL query. A green message box states: "MySQL returned an empty result set (i.e. zero rows). (Query took 0.0002 seconds.)". Below this, the SQL query is shown: `SELECT MONTH(date) AS month, COUNT(*) AS allSales, SUM(amount) AS allAmount, SUM(deliveryFee) AS allDeliveryFees FROM sales WHERE date >= '2022-01-01' AND date <= '2023-12-31' GROUP BY MONTH(date);`. The query execution options are visible, including "Profiling", "Edit inline", "Edit", "Explain SQL", "Create PHP code", and "Refresh". Below the query, the column headers for the result set are listed: "month", "allSales", "allAmount", and "allDeliveryFees". The "Query results operations" section includes a "Create view" button. The "Bookmark this SQL query" section has a "Label:" input field, a checkbox for "Let every user access this bookmark", and a "Bookmark this SQL query" button.

e) Code

```
SELECT donor.donorID, donor.gender, donor.firstName, donor.lastName,  
SUM(donation.amount) AS allDonations  
FROM donors donor  
JOIN donations donation ON donation.donorID = donor.donorID  
WHERE donor.city = 'Montréal' AND donation.date >= '2022-01-01' AND  
donation.date <= '2023-12-31'  
GROUP BY donor.donorID, donor.firstName, donor.lastName  
ORDER BY donor.gender ASC, donor.lastName ASC, donor.firstName ASC;
```

e) Results

The screenshot displays the phpMyAdmin web interface. On the left, a sidebar shows the database structure, including a tree view of the 'myfirstdatabase' containing tables like 'donations' and 'donors'. The 'donors' table is selected, showing its columns: donorID (PRIMARY), gender, firstName, lastName, address, city, dateOfBirth, email, phone, postalCode, province, and SSN. The main panel shows a SQL query executed against the 'donors' table. The query is a complex JOIN statement filtering for donors in 'Montréal' who made donations between '2022-01-01' and '2023-12-31', grouped by donor information and ordered by gender. The result is a message stating 'MySQL returned an empty result set (i.e. zero rows). (Query took 0.0002 seconds.)'. Below the message, the table structure for the result is shown with columns: donorID, gender, firstName, lastName, and allDonations. The 'Query results operations' section includes a 'Create view' button and a 'Bookmark this SQL query' section with a label input field and a checkbox for 'Let every user access this bookmark'. A 'Bookmark this SQL query' button is also present at the bottom of the bookmark section.

Server: 127.0.0.1 > Database: myfirstdatabase > Table: donors

Browse Structure SQL Search Insert Export Import Privileges Operations More

Show query box

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0002 seconds.)

```
SELECT donor.donorID, donor.gender, donor.firstName, donor.lastName, SUM(donation.amount) AS allDonations FROM donors donor JOIN donations donation ON donation.donorID = donor.donorID WHERE donor.city = 'Montréal' AND donation.date >= '2022-01-01' AND donation.date <= '2023-12-31' GROUP BY donor.donorID, donor.firstName, donor.lastName ORDER BY donor.gender ASC, donor.lastName ASC, donor.firstName ASC;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

donorID gender firstName lastName allDonations

Query results operations

Create view

Bookmark this SQL query

Label: ☐ Let every user access this bookmark

Bookmark this SQL query