

**University of British Columbia, Vancouver**

Department of Computer Science

# **CPSC 304 Project Cover Page**

Milestone #: 4

Date: April 5th, 2024

Group Number: 38

Name	Student Number	CS Alias	Email Address
Esther Hsueh	55621346	e9x8k	snow113@students.cs.ubc.ca
Reuben Sinha	48327316	x4y2b	reuben.sinha@gmail.com
Rhi Ann Ng	10455657	h5w2b	12rhiann@gmail.com

By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.) In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia.

# Project Description

Our project is to make an application for a Post Office Mail Management System. The system is designed to enhance the efficiency and reliability of mail delivery services by providing real-time tracking and monitoring capabilities for various types of mail items. The system serves as a comprehensive platform for postal workers, clients, and administrative staff to monitor the progress, location, and the value of mail shipment throughout the delivery process.

We have added display tables functionality for users to refer to, as well as a few common queries. The queries are spread out throughout two pages, with the Main page having the Display, Insert, Delete, Update, and Projection sections, and our Queries page providing the Selection as well as some preset queries under a dropdown.

## The pages can be found here:

Main Page: <https://www.students.cs.ubc.ca/~rhiannng/script.php>

Queries Page: <https://www.students.cs.ubc.ca/~rhiannng/queries.php>

# Final schema

Most of the schema changes were relatively minor. We changed anything with the type VARCHAR with VARCHAR2, as it is more secure and due to differences between VARCHAR and VARCHAR2 treating null and empty string variables. We also added character lengths, which are also shown in the final schema. Most are chosen arbitrarily, while certain ones like the 'Province' attribute in PostalCode are restricted to length 2, in order to constrain the variable and ensure nothing longer is put in during updates or inserts. For PostOfficeBranch, we added the 'Country' attribute as we forgot to include it previously, since it is part of a foreign key. We also renamed our 'State/Province' to 'Province' , simplifying the attribute name. As for the Employees and Clients relations, there was a 'Name' attribute in both that were renamed to 'EmployeeName' and 'ClientName' respectively. This was mainly to avoid confusion. In the Clients relation, we also made it such that neither email nor phone number can be null, not one or the other. This was to simplify our CREATE TABLE statement.

**\*\* Underlined attributes are primary keys and bolded attributes are foreign keys. (X + Y) means AND, (X,Y) means OR.**

Mail (TrackingID: INT, **CurrentBranch**: INT, **SenderUnitNum**: VARCHAR2(20), **SenderStreet**: VARCHAR2(20), **SenderPostCode**: VARCHAR2(20), **SenderCountry**: VARCHAR2(20),

**NextUnitNum**: VARCHAR2(20), **NextStreet**: VARCHAR2(20), **NextPostCode**: VARCHAR2(20),  
**NextCountry**: VARCHAR2(20), **FinalUnitNum**: VARCHAR2(20), **FinalStreet**: VARCHAR2(20),  
**FinalPostCode**: VARCHAR2(20), **FinalCountry**: VARCHAR2(20), **Sender**: INT, **Receiver**: INT,  
MailWeight: FLOAT, DeliveryType: VARCHAR2(20), Notes: VARCHAR2(200))

NOT NULL: TrackingID, CurrentBranch, NextUnitNum, NextStreet, NextPostCode, FinalUnitNum,  
FinalStreet, FinalPostCode, Receiver, DeliveryType

UNIQUE: TrackingID

CANDIDATE KEYS: TrackingID

PostOfficeBranch (**BranchID**: INT, **UnitNum**: VARCHAR2(20), **Street**: VARCHAR2(20), **PostalCode**:  
VARCHAR2(20), **BranchManager**: INT, **Country**: VARCHAR2(20))

NOT NULL: BranchID, UnitNum, Street, PostalCode, BranchManager

UNIQUE: BranchID, (UnitNum + Street + PostalCode + Country), BranchManager

CANDIDATE KEYS: BranchID, (UnitNum + Street + PostalCode + Country), BranchManager

Employees (**EmployeeID**: INT, EmployeeName: VARCHAR2(20), **WorksAtBranch**: INT, Department:  
VARCHAR2(20))

NOT NULL: EmployeeID, Name, WorksAtBranch

UNIQUE: EmployeeID

CANDIDATE KEYS: EmployeeID

Manager (**EmployeeID**: INT, **ManagesBranch**: INT)

NOT NULL: EmployeeID, ManagesBranch

UNIQUE: EmployeeID, ManagesBranch

CANDIDATE KEYS: EmployeeID, ManagesBranch

Driver (**EmployeeID**: INT, LicenseNumber: INT)

NOT NULL: EmployeeID, LicenseNumber

UNIQUE: EmployeeID, LicenseNumber

CANDIDATE KEYS: EmployeeID, LicenseNumber

PostalCode (PostalCode: VARCHAR2(20), Country: VARCHAR2(20), City: VARCHAR2(20), Province: VARCHAR2(2))

NOT NULL: PostalCode, Country, City, Province

UNIQUE: (PostalCode, Country), (City, Province)

CANDIDATE KEYS: (PostalCode, Country), (PostalCode, City, Province)

Addresses (UnitNum: VARCHAR2(20), Street: VARCHAR2(20), PostalCode: VARCHAR2(7), Country: VARCHAR2(20), BuildingType: VARCHAR2(20), **Resident**: INT, **LocalPostOffice** INT)

NOT NULL: UnitNum, Street, PostalCode, Country, LocalPostOffice

UNIQUE: (UnitNum, Street, PostalCode, Country)

CANDIDATE KEYS: (UnitNum, Street, PostalCode, Country)

Clients (ClientID: INT, ClientName: VARCHAR2(255), **ClientUnitNum**: VARCHAR2(50), **ClientStreet**: VARCHAR2(255), **ClientPostCode**: VARCHAR2(20), **ClientCountry**: VARCHAR2(100), PhoneNumber: INT, Email: VARCHAR2(255))

NOT NULL: ClientID, ClientName, Email, PhoneNumber

UNIQUE: ClientID

CANDIDATE KEYS: ClientID

MailBoxes (MailBoxID: INT, **PostOfficeBranch**: INT, Street VARCHAR2(20), PostalCode VARCHAR2(20));

NOT NULL: MailBoxID, PostOfficeBranch, Street, PostalCode

UNIQUE: MailBoxID

CANDIDATE KEYS: MailBoxID

Payment (TransactionID: INT, **Payer**: INT, **Mail**: INT, Price: FLOAT)

NOT NULL: TransactionID, Payer, Mail, Price

UNIQUE: TransactionID

CANDIDATE KEYS: TransactionID

Truck (LicensePlate: VARCHAR2(20), Branch: INT, MaintenanceDate: DATE)

NOT NULL: LicensePlate, Branch, MaintenanceDate

UNIQUE: LicensePlate

CANDIDATE KEYS: LicensePlate

# Screenshots of initialized tables

```
SQL> select table_name from user_tables;

TABLE_NAME
-----
POSTALCODE
CLIENTS
POSTOFFICEBRANCH
MAILBOXES
PAYMENT
TRUCK
EMPLOYEES
MANAGER
DRIVER
ADDRESSES
MAIL

11 rows selected.
```

## PostalCode

Retrieved data from table PostalCode:			
POSTALCODE	COUNTRY	CITY	PROVINCE
A1A 1A1	Canada	Vancouver	BC
V6M 1YZ	Canada	Vancouver	BC
V5E 1G5	Canada	Burnaby	BC
V3V 3K5	Canada	Surrey	BC
B2B 2B2	Canada	Toronto	ON
L4W 5A6	Canada	Toronto	ON
C3C 3C3	Canada	Ottawa	ON
D4D 4D4	Canada	Montreal	QC
E5E 5E5	Canada	Edmonton	AB

## Clients

Retrieved data from table Clients:							
CLIENTID	CLIENTNAME	CLIENTUNITNUM	CLIENTSTREET	CLIENTPOSTCODE	CLIENTCOUNTRY	PHONENUMBER	EMAIL
1111	John Doe	101	Main St	A1A 1A1	Canada	1234567890	john@example.com
2222	Jane Smith	2-202	Broadway Ave	B2B 2B2	Canada	2345678901	jane@example.com
3333	Alice Johnson	3-303	Elm St	C3C 3C3	Canada	3456789012	alice@example.com
4444	Bob Brown	404	Oak St	D4D 4D4	Canada	4567890123	bob@example.com
5555	Emily Davis	5-505	Maple Ave	E5E 5E5	Canada	5678901234	emily@example.com
6666	Rhi Ann Ng	2095	W 41st	V6M 1YZ	Canada	6041111111	rhiann@example.com
7777	Reuben Sinha	12788	King George Blvd	V3V 3K5	Canada	7787787777	reuben@example.com
8888	Esther Hsueh	7229	Kingsway	V5E 1G5	Canada	6041231234	esther@example.com
9999	Jean Luc Picard	2800	Skymark Ave	L4W 5A6	Canada	3803803801	jeanluc@example.com

## PostOfficeBranch

Retrieved data from table PostOfficeBranch:					
BRANCHID	UNITNUM	STREET	POSTALCODE	BRANCHMANAGER	COUNTRY
1	101	Main St	A1A 1A1	101	Canada
2	5-505	Maple Ave	E5E 5E5	102	Canada
3	2-202	Broadway Ave	B2B 2B2	103	Canada
4	3-303	Elm St	C3C 3C3	104	Canada
5	404	Oak St	D4D 4D4	105	Canada

## MailBoxes

Retrieved data from table MAILBOXES:			
MAILBOXID	POSTOFFICEBRANCH	STREET	POSTALCODE
1	1	Mountain St	A1A 1A1
2	1	Burrard St	A1A 1A1
3	3	Aspen Ave	C3C 3C3
4	4	Kirkland Drive	D4D 4D4
5	5	Lenovo Rd	E5E 5E5
6	5	Lenovo Rd	E5E 5E7
7	2	Willow St	H0H 0H0
8	3	Raymond Ave	V5Y 2R8
9	4	Seva St	A12 B3C
10	4	Ash St	F9K 3N2
11	1	Main St	B1D S2F

## Payment

Retrieved data from table Payment:			
TRANSACTIONID	PAYER	MAIL	PRICE
1	1111	1111	10.99
2	2222	2222	15.75
3	3333	3333	20.5
4	4444	4444	12.25
5	5555	5555	18.99

## Truck

Retrieved data from table Truck:		
LICENSEPLATE	BRANCH	MAINTENANCEDATE
NE866W	1	01-NOV-23
VJ3N8K	2	02-JAN-24
2FAST4U	3	23-JUL-23
L87NE2	4	15-SEP-23
PK3N84	5	10-DEC-23

## Employees

Retrieved data from table EMPLOYEES:			
EMPLOYEEID	EMPLOYEENAME	WORKSATBRANCH	DEPARTMENT
1	Alice	1	Delivery
2	Bob	2	Delivery
3	Charlie	5	Delivery
4	David	4	Delivery
5	Emma	5	Delivery
6	Rina	1	Customer Service
7	Kevin	2	Customer Service
8	Charlie	3	Customer Service
9	Sarah	4	Customer Service
10	Sean	5	Customer Service
101	Kayla	1	
102	John	2	
103	Maria	3	
104	Lily	4	
105	Penny	5	
106	Alice	5	Office Entertainment
107	Alice	5	Janitor
108	Alex	2	Vibes
109	Rae	2	Ghost Hunter
110	Claire	2	Exorcist
111	Aria	2	Security
112	Joseph	2	Inventory

## Manager

Retrieved data from table Manager:	
EMPLOYEEID	MANAGESBRANCH
101	1
102	2
103	3
104	4
105	5

## Driver

Retrieved data from table Driver:	
EMPLOYEEID	LICENSENUMBER
1	123456
2	789012
3	345678
4	901234
5	567890

## Mail

(Due to the number of attributes of Mail, the eight entities are presented in two separate screenshots below.)

Retrieved data from table Mail:

TRACKINGID	CURRENTBRANCH	SENDERUNITNUM	SENDERSTREET	SENDERPOSTCODE	SENDERCOUNTRY	NEXTUNITNUM	NEXTSTREET	NEXTPOSTCODE
1111	1	2-202	Broadway Ave	B2B 2B2	Canada	404	Oak St	D4D 4D4
2222	2					5-505	Maple Ave	E5E 5E5
3333	3	5-505	Maple Ave	E5E 5E5	Canada	2-202	Broadway Ave	B2B 2B2
4444	4					101	Main St	A1A 1A1
5555	5	404	Oak St	D4D 4D4	Canada	3-303	Elm St	C3C 3C3
6666	1	2095	W 41st	V6M 1YZ	Canada	2800	Skymark Ave	L4W 5A6
7777	1	12788	King George Blvd	V3V 3K5	Canada	2800	Skymark Ave	L4W 5A6
8888	3					7229	Kingsway	V5E 1G5

NEXTCOUNTRY	FINALUNITNUM	FINALSTREET	FINALPOSTCODE	FINALCOUNTRY	SENDER	RECEIVER	MAILWEIGHT	DELIVERYTYPE	NOTES
Canada	404	Oak St	D4D 4D4	Canada	2222	4444	1.2	Standard	Fragile
Canada	101	Main St	A1A 1A1	Canada		1111	.8	Standard	
Canada	101	Main St	A1A 1A1	Canada		1111		Express	
Canada	3-303	Elm St	C3C 3C3	Canada	2222	3333		Standard	
Canada	2-202	Broadway Ave	B2B 2B2	Canada	4444	2222	2.2	Standard	Fragile
Canada	2800	Skymark Ave	L4W 5A6	Canada	6666	9999		Standard	
Canada	2800	Skymark Ave	L4W 5A6	Canada	7777	9999	.8	Express	
Canada	7229	Kingsway	V5E 1G5	Canada	9999	8888		Standard	

# List of SQL queries and its functionality

## INSERT Operation

script.php, line 523

### Before:

The table looks like this:

Retrieved data from table Clients:								
CLIENTID	CLIENTNAME	CLIENTUNITNUM	CLIENTSTREET	CLIENTPOSTCODE	CLIENTCOUNTRY	PHONENUMBER	EMAIL	
1111	John Doe	101	Main St	A1A 1A1	Canada	1234567890	john@example.com	
2222	Jane Smith	2-202	Broadway Ave	B2B 2B2	Canada	2345678901	jane@example.com	
3333	Alice Johnson	3-303	Elm St	C3C 3C3	Canada	3456789012	alice@example.com	
4444	Bob Brown	404	Oak St	D4D 4D4	Canada	4567890123	bob@example.com	
5555	Emily Davis	5-505	Maple Ave	E5E 5E5	Canada	5678901234	emily@example.com	
6666	Rhi Ann Ng	2095	W 41st	V6M 1YZ	Canada	6041111111	rhiann@example.com	
7777	Reuben Sinha	12788	King George Blvd	V3V 3K5	Canada	7787787777	reuben@example.com	
8888	Esther Hsueh	7229	Kingsway	V5E 1G5	Canada	6041231234	esther@example.com	
9999	Jean Luc Picard	2800	Skymark Ave	L4W 5A6	Canada	3803803801	jeanluc@example.com	

### During:

Click the Insert button at the bottom of the page:

**CPSC 304 Group 38: Post Office Management Database**

**Other Pages**

---

**Display**

Either display all the tables or pick one to display:

Select

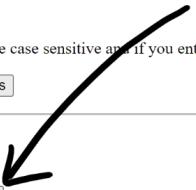
---

**Update**

The values are case sensitive and if you enter in the wrong case, the update statement will not do anything.

---

**Insert**



---

**Delete**

The values are case sensitive and if you enter in the wrong case, the delete statement will not do anything.

Then select the drop down at the bottom of the page. Select a table (in this case, Clients) and hit Submit.

### Update

The values are case sensitive and if you enter in the wrong case, the update statement will not do anything.

### Insert

### Delete

The values are case sensitive and if you enter in the wrong case, the delete statement will not do anything.

**Project**

**Pick a table**

Select  
 Postal Code  
**Clients**  
 Post Office Branch  
 Mailboxes  
 Payment  
 Truck  
 Employees  
 Manager  
 Driver  
 Addresses  
 Mail

Choose a table:

A table should be displayed at the bottom of the page for your own reference. Enter the primary keys and required fields, along with any optional information. Hit Insert at the bottom once finished.

Retrieved data from table CLIENTS:

CLIENTID	CLIENTNAME	CLIENTUNITNUM	CLIENTSTREET	CLIENTPOSTCODE	CLIENTCOUNTRY	PHONENUMBER	EMAIL
1111	John Doe	101	Main St	A1A 1A1	Canada	1234567890	john@example.com
2222	Jane Smith	2-202	Broadway Ave	B2B 2B2	Canada	2345678901	jane@example.com
3333	Alice Johnson	3-303	Elm St	C3C 3C3	Canada	3456789012	alice@example.com
4444	Bob Brown	404	Oak St	D4D 4D4	Canada	4567890123	bob@example.com
5555	Emily Davis	5-505	Maple Ave	E5E 5E5	Canada	5678901234	emily@example.com
6666	Rhi Ann Ng	2095	W 41st	V6M 1YZ	Canada	6041111111	rhiann@example.com
7777	Reuben Sinha	12788	King George Blvd	V3V 3K5	Canada	7787787777	reuben@example.com
8888	Esther Hsueh	7229	Kingsway	V5E 1G5	Canada	6041231234	esther@example.com
9999	Jean Luc Picard	2800	Skymark Ave	L4W 5A6	Canada	3803803801	jeanluc@example.com

Select a table to insert new data. Values are case sensitive.

Enter the primary keys and values of the tuple you want to add:

CLIENTID (required):

CLIENTNAME (required):

CLIENTUNITNUM:

CLIENTSTREET:

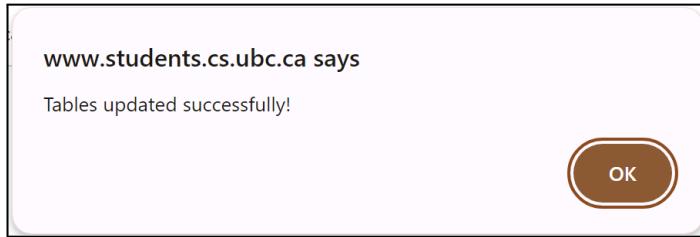
CLIENTPOSTCODE:

CLIENTCOUNTRY:

PHONENUMBER (required):

EMAIL (required):

If you were successful, you should get a notification like this!



If the query was unsuccessful, this will show up instead:



After:

The updated table should be displayed again after the page reloads:

Retrieved data from table CLIENTS:							
CLIENTID	CLIENTNAME	CLIENTUNITNUM	CLIENTSTREET	CLIENTPOSTCODE	CLIENTCOUNTRY	PHONENUMBER	EMAIL
1111	John Doe	101	Main St	A1A 1A1	Canada	1234567890	john@example.com
2222	Jane Smith	2-202	Broadway Ave	B2B 2B2	Canada	2345678901	jane@example.com
3333	Alice Johnson	3-303	Elm St	C3C 3C3	Canada	3456789012	alice@example.com
4444	Bob Brown	404	Oak St	D4D 4D4	Canada	4567890123	bob@example.com
5555	Emily Davis	5-505	Maple Ave	E5E 5E5	Canada	5678901234	emily@example.com
6666	Rhi Ann Ng	2095	W 41st	V6M 1YZ	Canada	6041111111	rhiann@example.com
7777	Reuben Sinha	12788	King George Blvd	V3V 3K5	Canada	7787787777	reuben@example.com
8888	Esther Hsueh	7229	Kingsway	V5E 1G5	Canada	6041231234	esther@example.com
9999	Jean Luc Picard	2800	Skymark Ave	L4W 5A6	Canada	3803803801	jeanluc@example.com
1234	Deanna Troi					1111111111	deanna@example.com

## **DELETE Operation**

script.php, line 568

Before:

This is what the Mail table looks like:

Retrieved data from table Mail:									
TRACKINGID	CURRENTBRANCH	SENDERUNITNUM	SENDERSTREET	SENDERPOSTCODE	SENDERCOUNTRY	NEXTUNITNUM	NEXTSTREET	NEXTPOSTCODE	
1111	1	2-202	Broadway Ave	B2B 2B2	Canada	404	Oak St	D4D 4D4	
2222	2					5-505	Maple Ave	E5E 5E5	
3333	3	5-505	Maple Ave	E5E 5E5	Canada	2-202	Broadway Ave	B2B 2B2	
4444	4					101	Main St	A1A 1A1	
5555	5	404	Oak St	D4D 4D4	Canada	3-303	Elm St	C3C 3C3	
6666	1	2095	W 41st	V6M 1YZ	Canada	2800	Skymark Ave	L4W 5A6	
7777	1	12788	King George Blvd	V3V 3K5	Canada	2800	Skymark Ave	L4W 5A6	
8888	3					7229	Kingsway	V5E 1G5	

NEXTCOUNTRY	FINALUNITNUM	FINALSTREET	FINALPOSTCODE	FINALCOUNTRY	SENDER	RECEIVER	MAILWEIGHT	DELIVERYTYPE	NOTES
Canada	404	Oak St	D4D 4D4	Canada	2222	4444	1.2	Standard	Fragile
Canada	101	Main St	A1A 1A1	Canada		1111	.8	Standard	
Canada	101	Main St	A1A 1A1	Canada		1111		Express	
Canada	3-303	Elm St	C3C 3C3	Canada	2222	3333		Standard	
Canada	2-202	Broadway Ave	B2B 2B2	Canada	4444	2222	2.2	Standard	Fragile
Canada	2800	Skymark Ave	L4W 5A6	Canada	6666	9999		Standard	
Canada	2800	Skymark Ave	L4W 5A6	Canada	7777	9999	.8	Express	
Canada	7229	Kingsway	V5E 1G5	Canada	9999	8888		Standard	

During:

Hit the 'Delete Tuples' button in the page.

## CPSC 304 Group 38: Post Office Management Database

### Other Pages

[Queries](#)

---

### Display

Either display all the tables or pick one to display:

[Display All Tables](#)

Select

---

### Update

The values are case sensitive and if you enter in the wrong case, the update statement will not do anything.

[Update Tables](#)

---

### Insert

[Insert Tables](#)

---

### Delete

The values are case sensitive and if you enter in the wrong case, the delete statement will not do anything.

[Delete Tuples](#) 

---

### Projection

[projectionTables](#)

A drop down will appear, we will click the Mail table. Hit Submit.

**Display**

Either display all the tables or pick one to display:

---

**Update**

The values are case sensitive and if you enter in the wrong case, the update statement will not do anything.

---

**Insert**

---

**Delete**

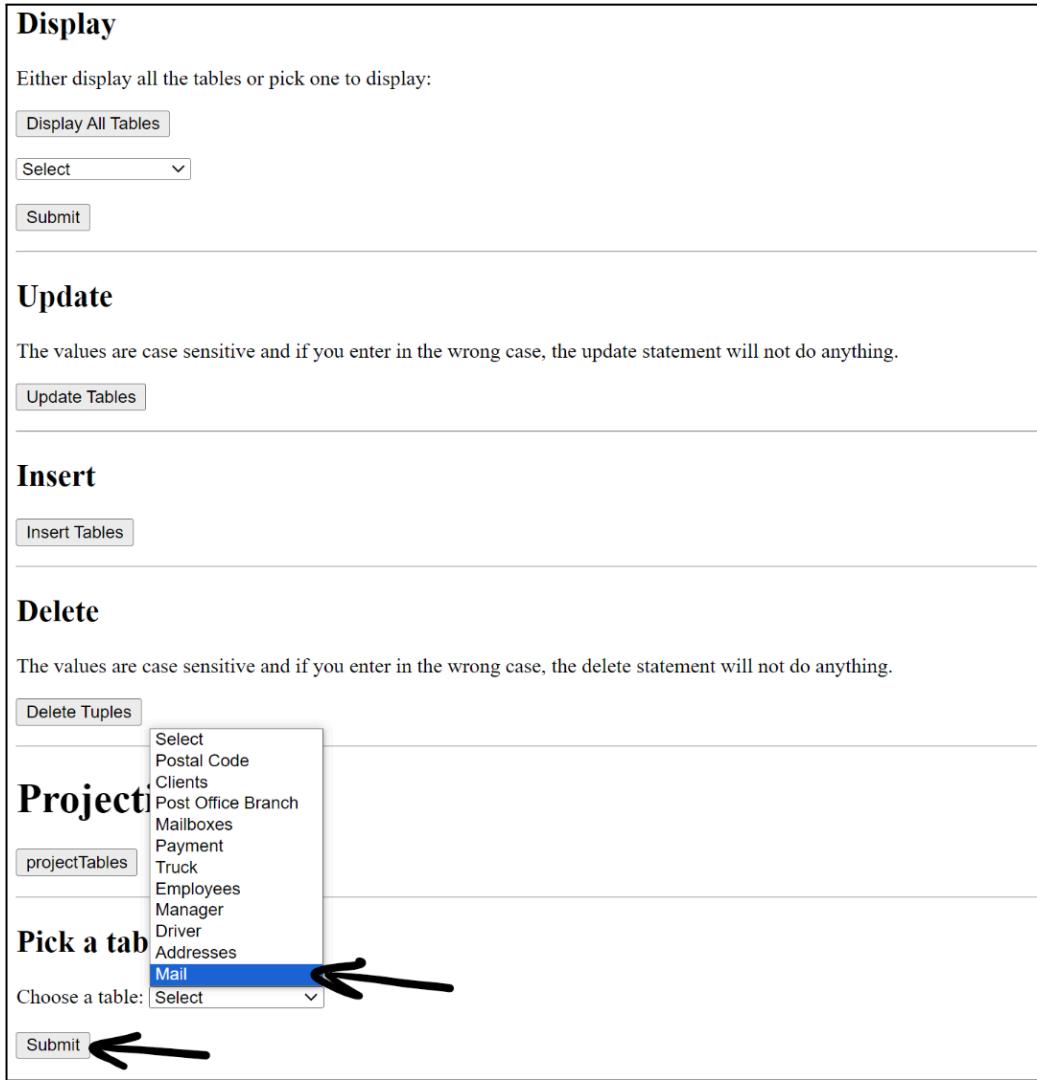
The values are case sensitive and if you enter in the wrong case, the delete statement will not do anything.

**Project**

**Pick a tab**

Choose a table:

Select  
Postal Code  
Clients  
Post Office Branch  
Mailboxes  
Payment  
Truck  
Employees  
Manager  
Driver  
Addresses  
**Mail**



A displayed table will appear at the bottom of the page. Enter the primary key of the tuples that you want to delete, then hit Delete.

## Delete

The values are case sensitive and if you enter in the wrong case, the delete statement will not do anything.

## Projection

Retrieved data from table MAIL:

TRACKINGID	CURRENTBRANCH	SENDERUNITNUM	SENDERSTREET	SENDERPOSTCODE	SENDERCOUNTRY	NEXTUNITNU
1111	1	2-202	Broadway Ave	B2B 2B2	Canada	404
2222	2					5-505
3333	3	5-505	Maple Ave	E5E 5E5	Canada	2-202
4444	4					101
5555	5	404	Oak St	D4D 4D4	Canada	3-303
6666	1	2095	W 41st	V6M 1YZ	Canada	2800
7777	1	12788	King George Blvd	V3V 3K5	Canada	2800
8888	3					7229

Values are case sensitive:

Enter the primary keys of the tuple you want to delete:

TrackingID:   

## After:

The updated table should appear after the delete operation:

Retrieved data from table MAIL:

TRACKINGID	CURRENTBRANCH	SENDERUNITNUM	SENDERSTREET	SENDERPOSTCODE	SENDERCOUNTRY	NEXTUNITNUM	NEXTSTREET	NEXTPOSTCODE	NEXTCOUNTRY
2222	2					5-505	Maple Ave	E5E 5E5	Canada
3333	3	5-505	Maple Ave	E5E 5E5	Canada	2-202	Broadway Ave	B2B 2B2	Canada
4444	4					101	Main St	A1A 1A1	Canada
5555	5	404	Oak St	D4D 4D4	Canada	3-303	Elm St	C3C 3C3	Canada
6666	1	2095	W 41st	V6M 1YZ	Canada	2800	Skymark Ave	L4W 5A6	Canada
7777	1	12788	King George Blvd	V3V 3K5	Canada	2800	Skymark Ave	L4W 5A6	Canada
8888	3					7229	Kingsway	V5E 1G5	Canada

FINALUNITNUM	FINALSTREET	FINALPOSTCODE	FINALCOUNTRY	SENDER	RECEIVER	MAILWEIGHT	DELIVERYTYPE	NOTES
101	Main St	A1A 1A1	Canada	1111	.8		Standard	
101	Main St	A1A 1A1	Canada		1111		Express	
3-303	Elm St	C3C 3C3	Canada	2222	3333		Standard	
2-202	Broadway Ave	B2B 2B2	Canada	4444	2222	2.2	Standard	Fragile
2800	Skymark Ave	L4W 5A6	Canada	6666	9999		Standard	
2800	Skymark Ave	L4W 5A6	Canada	7777	9999	.8	Express	
7229	Kingsway	V5E 1G5	Canada	9999	8888		Standard	

## UPDATE Operation

script.php, line 450

### Before:

This is what the Truck table looks like before:

Retrieved data from table Truck:		
LICENSEPLATE	BRANCH	MAINTENANCEDATE
NE866W	1	01-NOV-23
VJ3N8K	2	02-JAN-24
2FAST4U	3	23-JUL-23
L87NE2	4	15-SEP-23
PK3N84	5	10-DEC-23

### During:

Hit the 'Update Tables' button.

## CPSC 304 Group 38: Post Office Management Database

### Other Pages

[Queries](#)

### Display

Either display all the tables or pick one to display:

[Display All Tables](#)

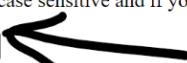
Select

[Submit](#)

### Update

The values are case sensitive and if you enter in the wrong case, the update statement will not do anything.

[Update Tables](#)



### Insert

[Insert Tables](#)

### Delete

The values are case sensitive and if you enter in the wrong case, the delete statement will not do anything.

[Delete Tuples](#)

Select the table you'd like to update, in this case we choose Truck. Hit Submit.

## Display

Either display all the tables or pick one to display:

## Update

The values are case sensitive and if you enter in the wrong case, the update statement will not do anything.

## Insert

## Delete

The values are case sensitive and if you enter in the wrong case, the delete statement will not do anything.

Choose a table:

- Select
- Postal Code
- Clients
- Post Office Branch
- Mailboxes
- Payment
- Truck
- Employees
- Manager
- Driver
- Addresses
- Mail



A table should be displayed for your reference. Enter the primary key of the tuple you'd like to update and then your updated values. Hit Update.

Delete		
The values are case sensitive and if you enter in the wrong case, the delete statement will not do anything.		
<input type="button" value="Delete Tuples"/>		
Project		
<input type="button" value="Project Tables"/>		
Retrieved data from table TRUCK:		
LICENSEPLATE	BRANCH	MAINTENANCEDATE
NE866W	1	01-NOV-23
VJ3N8K	2	02-JAN-24
2FAST4U	3	23-JUL-23
L87NE2	4	15-SEP-23
PK3N84	5	10-DEC-23
Values are case sensitive		
Enter the primary keys of the tuple:		
LicensePlate: <input type="text" value="NE866W"/>		
Enter the values you wish to change:		
LICENSEPLATE:	<input type="text"/>	
BRANCH:	<input type="text" value="2"/>	
MAINTENANCEDATE:	<input type="text" value="2024-01-03"/>	
<input type="button" value="Update"/>		

## After:

A table should be displayed afterwards:

Retrieved data from table TRUCK:		
LICENSEPLATE	BRANCH	MAINTENANCEDATE
NE866W	2	03-JAN-24
VJ3N8K	2	02-JAN-24
2FAST4U	3	23-JUL-23
L87NE2	4	15-SEP-23
PK3N84	5	10-DEC-23

## Selection query

queries.php, line 502

## Before:

The selection function is on the other page. Click **Queries** will transfer to that page.

# CPSC 304 Group 38: Post Office Management Database

## Other Pages

[Queries](#)

## Display

Either display all the tables or pick one to display:

[Display All Tables](#)

Select

[Submit](#)

## Update

The values are case sensitive and if you enter in the wrong case, the update statement will not do anything.

[Update Tables](#)

# CPSC 304 Group 38: Post Office Management Database

## Other Pages

[Main Page](#)

## Selection

The values are case sensitive and if you enter in the wrong case, the selection query will not do anything.

[Submit](#)

### During:

Click the **Submit** button. It will show a new section for selecting a table. Use the dropdown to choose the table. In this example, choose **Employees** and then submit.

## Selection

The values are case sensitive and if you enter in the wrong case, the selection will not work.

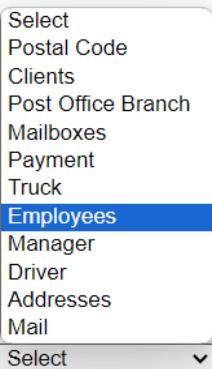
---

## Queries

Select a query:

Pick a tab

Choose a table:



## Selection

The values are case sensitive and if you enter in the wrong case, the selection will not work.

---

## Queries

Select a query:

Values are case sensitive

Enter the values:

EMPLOYEEID:  AND

EMPLOYEENAME:  AND

WORKSATBRANCH:  AND

DEPARTMENT:  AND

Then a form will show. Then use the dropdown to choose the AND/OR condition.

Values are case sensitive

Enter the values:

EMPLOYEEID:  AND

EMPLOYEENAME:  OR

WORKSATBRANCH:  AND

DEPARTMENT:  AND

After:

The data of employees, Sean and Rina will be shown below.

EMPLOYEEID	EMPLOYEENAME	WORKSATBRANCH	DEPARTMENT
6	Rina	1	Customer Service
10	Sean	5	Customer Service

## Projection query

queries.php, line 629

Click the Project button:

**CPSC 304 Group 38: Post Office Management Database**

**Other Pages**

---

**Display**

Either display all the tables or pick one to display:

Select

---

**Update**

The values are case sensitive and if you enter in the wrong case, the update statement will not do anything.

---

**Insert**

---

**Delete**

The values are case sensitive and if you enter in the wrong case, the delete statement will not do anything.

---

**Project**



A dropdown menu should appear. Click the tables you'd like to see (in this example, Addresses) and hit Submit.

**Display**

Either display all the tables or pick one to display:

Select

---

**Update**

The values are case sensitive and if you enter in the wrong case, the update statement will not do anything.

---

**Insert**

---

**Delete**

The values are case sensitive and if you enter in the wrong case, the delete statement will not do anything.

Select

Clients

Post Office Branch

Mailboxes

Payment

Truck

Employees

Manager

Driver

Addresses



Choose a table: Select

Some options for the columns should appear. Click on the ones you'd like to see.

Select the columns you want to include in the projection:

UNITNUM  
 STREET  
 POSTALCODE  
 COUNTRY  
 BUILDINGTYPE  
 RESIDENT  
 LOCALPOSTOFFICE

This is the resulting table that is displayed:

Retrieved data from table ADDRESSES:		
BUILDINGTYPE	RESIDENT	LOCALPOSTOFFICE
House	1111	1
Apartment	2222	2
Condo	3333	3
House	4444	4
Apartment	5555	5
Basement	6666	1
House	7777	1
Apartment	8888	1
House	9999	3

## Join: Payment Receipt

queries.php, line 297

On the queries page, select a query: Payment Receipt. Hit submit.

**CPSC 304 Group 38: Post Office Management Database**

**Other Pages**

[Main Page](#)

---

**Selection**

The values are case sensitive and if you enter in the wrong case, the selection query will not do anything.

---

**Queries**

Select a query:

- Select
- Track a piece of mail
- Location of a Post Office Branch
- Manager of a branch
- Amount of mail in each branch
- Payment Receipt**
- Unpaid Mail
- Incoming Mail
- Branches with many employees
- Clients mailing to provinces
- Average Transaction Price per Sender and Receiver

Enter the transaction ID for the mail you'd like to track. Hit submit.

**CPSC 304 Group 38: Post Office Management Database**

**Other Pages**

[Main Page](#)

---

**Selection**

The values are case sensitive and if you enter in the wrong case, the selection query will not do anything.

---

**Queries**

Select a query:



---

**Payment Receipt**

Transaction ID:  

Here is the table that it displays:

PAYER	MAIL	PRICE	SENDER	RECEIVER	FINALUNITNUM	FINALSTREET	FINALPOSTCODE	FINALCOUNTRY	MAILWEIGHT	DELIVERYTYPE	NOTES
1111	1111	10.99	2222	4444	404	Oak St	D4D 4D4	Canada	1.2	Standard	Fragile

## Aggregation with GROUP BY: Amount of mail per branch

queries.php, line 277

On the queries page, click on the 'Amount of mail per branch' option under the Queries section. Hit Submit.

**CPSC 304 Group 38: Post Office Management Database**

**Other Pages**

[Main Page](#)

---

**Selection**

The values are case sensitive and if you enter in the wrong case, the selection query will not do anything.

---

**Queries**

Select a query:

↑      ↙

Amount of mail in each branch  
Select  
Track a piece of mail  
Location of a Post Office Branch  
Manager of a branch  
Amount of mail in each branch  
Payment Receipt  
Unpaid Mail  
Incoming Mail  
Branches with many employees  
Clients mailing to provinces  
Average Transaction Price per Sender and Receiver

Click 'Submit' under the Amount of mail in each branch section.

# CPSC 304 Group 38: Post Office Management Database

## Other Pages

[Main Page](#)

## Selection

The values are case sensitive and if you enter in the wrong case, the selection query will not do anything.

[Submit](#)

## Queries

Select a query: [Select](#) ▾

[Submit](#)

### Amount of mail in each branch

[Submit](#)



This is the table that gets displayed:

CURRENTBRANCH	COUNT(*)
1	3
2	1
4	1
5	1
3	2

## Aggregation with HAVING: Branches with many employees

queries.php, line 364

Click on the 'Branches with many employees' under the Queries section in the query page.

## CPSC 304 Group 38: Post Office Management Database

### Other Pages

[Main Page](#)

### Selection

The values are case sensitive and if you enter in the wrong case, the selection query will not do anything.

[Submit](#)

### Queries

Select a query:

- Select
- Select
- Track a piece of mail
- Location of a Post Office Branch
- Manager of a branch
- Amount of mail in each branch
- Payment Receipt
- Unpaid Mail
- Incoming Mail
- Branches with many employees**
- Clients mailing to provinces
- Average Transaction Price per Sender and Receiver



Enter the threshold for the number of employees. (This number is inclusive). Hit Submit:

## CPSC 304 Group 38: Post Office Management Database

### Other Pages

[Main Page](#)

### Selection

The values are case sensitive and if you enter in the wrong case, the selection query will not do anything.

[Submit](#)

### Queries

Select a query: Select

[Submit](#)

### Branches with many employees

Number of employees:

[Submit](#)

This is the table that is displayed:

BRANCH	COUNT(*)
1	3
2	8
5	6
4	3

## Nested Aggregation with GROUP BY: Unpaid mail

queries.php, line 318

Under the queries page, select 'Unpaid Mail' under the Queries section.

### CPSC 304 Group 38: Post Office Management Database

**Other Pages**

[Main Page](#)

---

**Selection**

The values are case sensitive and if you enter in the wrong case, the selection query will not do anything.

---

**Queries**

Select a query:

Select  
 Select  
 Track a piece of mail  
 Location of a Post Office Branch  
 Manager of a branch  
 Amount of mail in each branch  
 Payment Receipt  
**Unpaid Mail**  
 Incoming Mail  
 Branches with many employees  
 Clients mailing to provinces  
 Average Transaction Price per Sender and Receiver

Hit Submit under Unpaid mail.

# CPSC 304 Group 38: Post Office Management Database

## Other Pages

[Main Page](#)

## Selection

The values are case sensitive and if you enter in the wrong case, the selection query will not do anything.

[Submit](#)

## Queries

Select a query: [Select](#)

[Submit](#)

## Unpaid mail

[Submit](#)

This is the table that is displayed.

### Unpaid mail

[Submit](#)

#### CLIENTS

#### COUNT(\*)

8888

1

9999

2

**Division: Names, phone numbers, and emails of clients who have sent mail to a given province**

queries.php, line 385

Click the 'Clients mailing to provinces' option under the Queries section in the Queries page.

# CPSC 304 Group 38: Post Office Management Database

## Other Pages

[Main Page](#)

## Selection

The values are case sensitive and if you enter in the wrong case, the selection query will not do anything.

## Queries

Select a query:

Select  
Track a piece of mail  
Location of a Post Office Branch  
Manager of a branch  
Amount of mail in each branch  
Payment Receipt  
Unpaid Mail  
Incoming Mail  
Branches with many employees  
**Clients mailing to provinces**  
Average Transaction Price per Sender and Receiver

Provide the province you're most interested in. Here we use Ontario, which needs to be abbreviated for our search. Click submit.

### Clients mailing to provinces

Find the name and contact info of clients who have sent mail to given province

Insert Province name:

This is the table that is displayed:

CLIENTNAME	EMAIL	PHONENUMBER
Jane Smith	jane@example.com	2345678901
Bob Brown	bob@example.com	4567890123
Rhi Ann Ng	rhiann@example.com	6041111111
Reuben Sinha	reuben@example.com	7787787777