

CPSC 304 Project Cover Page

Milestone #: 4

Date: Dec 1, 2023

Group Number: 10

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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

Location of Milestone Deliverables

Deliverable 1: the **first page** of this document

Deliverable 2: the SQL script used to create all tables and data in the DB is found at **CPSC304-2023W-T1/project_b1q8n_i9j6q_v3m4r/sql_scripts/init.sql**

Deliverable 3: **this document**

Deliverable 4: can be found at **CPSC304-2023W-T1/project_b1q8n_i9j6q_v3m4r/README.txt**

(a) Description of the Final Project

This is the database for a municipal system tracking down all reported physical incidents in a city. Our database keeps track of many aspects of an incident, including the location it was located at, all people involved (the reporter of the incident, first responders and their departments, potential suspects, victims, etc.), and what equipment/vehicles were used in aiding the case.

(b) Differences in Final Schema and Why

- IncidentInfo: changed foreign key description from ON DELETE SET NULL to ON DELETE CASCADE
- Department: changed attribute Speciality to Specialty
- Removed ON UPDATE altogether, as it is not supported by Oracle.

(c) Schema + Screenshots after Running init.sql



IncidentStatus(description, statusValue):

	DESCRIPTION	STATUSVALUE
1	stabbing	in-progress
2	murder	in-progress
3	shooting	closed
4	burglary	closed
5	bomb threat	in-progress
6	arson	in-progress
7	vehicle theft	closed
8	possession of illegal substances	in-progress
9	jaywalking	in-progress
10	assault	in-progress
11	DUI	in-progress
12	human trafficking	in-progress





IncidentInfo(incidentID, dateIncident, **description**):

	INCIDENTID	DATEINCIDENT	DESCRIPTION
1	1	2023-10-20	stabbing
2	2	2011-11-17	arson
3	3	2020-02-29	shooting
4	4	2017-05-09	bomb threat
5	5	2010-01-05	vehicle theft
6	6	2010-11-16	burglary
7	7	2023-06-08	murder
8	8	2008-04-20	possession of illegal substances
9	9	2008-04-20	jaywalking
10	10	2020-07-06	assault
11	11	2021-07-06	DUI
12	12	2023-05-24	human trafficking

Location(address, neighbourhood):

	 ADDRESS	 NEIGHBOURHOOD
1	1755 E 55th Ave.	Victoria - Fraserview
2	142 Water St.	Downtown
3	100 W 49th Ave.	Marpole
4	6426 Kerr St.	Killarney
5	712 Lost Lagoon Path	Stanley Park
6	1688 W 29th Ave.	Shaughnessy
7	2996 W 5th Ave.	Kitsilano
8	2120 Cambie St.	Mount Pleasant
9	1081 Burrard St.	Downtown
10	238 E Cordova St.	Downtown
11	1475 W 10th Ave.	Fairview
12	5425 Carnarvon St.	Kerrisdale
13	4830 Nanaimo St.	Kensington - Cedar Cottage
14	5402 Victoria Dr.	Kensington - Cedar Cottage
15	6070 East Blvd.	Kerrisdale
16	899 W 12th Ave.	Fairview
17	1005 W 59th Ave.	Marpole
18	872 E Hastings St.	Strathcona
19	2992 Wesbrook Mall	University Endowment Lands
20	3080 Prince Edward St.	Mount Pleasant
21	5832 Olympic St.	Dunbar - Southlands
22	2036 Main Mall	University Endowment Lands
23	5391 Knight St.	Kensington - Cedar Cottage
24	710 Granville St.	Downtown
25	8589 Fraser St.	Sunset

OccurredAt(incidentID, address):

	 INCIDENTID 	 ADDRESS 
1	1	142 Water St.
2	2	6426 Kerr St.
3	3	100 W 49th Ave.
4	4	1755 E 55th Ave.
5	5	2996 W 5th Ave.
6	6	1688 W 29th Ave.
7	7	712 Lost Lagoon Path
8	8	5832 Olympic St.
9	9	5391 Knight St.
10	10	2036 Main Mall
11	11	710 Granville St.
12	12	8589 Fraser St.



Department(branchID, specialty, **locatedAtAddress**):

	BRANCHID	SPECIALTY	LOCATEDATADDRESS
1	1	police	2120 Cambie St.
2	2	hospital	1081 Burrard St.
3	3	police	238 E Cordova St.
4	4	fire	1475 W 10th Ave.
5	5	fire	5425 Carnarvon St.
6	6	police	4830 Nanaimo St.
7	7	fire	5402 Victoria Dr.
8	8	police	6070 East Blvd.
9	9	hospital	899 W 12th Ave.
10	10	fire	1005 W 59th Ave.
11	11	police	872 E Hastings St.
12	12	fire	2992 Wesbrook Mall
13	13	hospital	3080 Prince Edward St.




Responder(professionalID, name, occupation, **worksForBranchID**):

	PROFESSIONALID	NAME	OCCUPATION	WORKSFORBRANCHID
1	21	Jim Jones	firefighter	4
2	23	Jared Fogle	firefighter	5
3	31	Jason Somerville	police officer	3
4	36	Charity Johnson	police officer	3
5	37	Chairiddee Jawnsen	police officer	1
6	40	Melina del Cortez	nurse	3
7	53	Tyler Chu	doctor	3



AssignedTo(incidentID, professionalID):

	 INCIDENTID ▾	 PROFESSIONALID ▾
1	1	40
2	1	53
3	2	21
4	2	23
5	3	53
6	4	31
7	5	36
8	6	36
9	7	37



InvolvedPerson(name, personID, **presentAtAddress**):

	 NAME ▾	 PERSONID ▾	 PRESENTATADDRESS ▾
1	John Smith	10	1755 E 55th Ave.
2	Jonathan Smith	11	1755 E 55th Ave.
3	Jon Smith	12	142 Water St.
4	Yohan Smith	13	142 Water St.
5	Gianni Smith	14	100 W 49th Ave.
6	Johnny Smith	16	6426 Kerr St.
7	Joanna Smith	18	712 Lost Lagoon Path
8	Joann Smith	19	1688 W 29th Ave.
9	Joanne Smith Sr.	21	2996 W 5th Ave.
10	Joanne Smith Jr.	22	2996 W 5th Ave.
11	JR Smith	23	712 Lost Lagoon Path



Involves(incidentID, personID):

	 INCIDENTID ↕	 PERSONID ↕
1	1	10
2	1	11
3	2	12
4	2	13
5	3	14
6	4	16
7	5	18
8	5	23
9	6	19
10	7	21
11	7	22



Suspect(personID, physicalBuild, numPriorOffenses):

	 PERSONID ↕	 PHYSICALBUILD ↕	 NUMPRIOROFFENSES ↕
1	11	medium	0
2	12	stocky	5
3	13	stocky	8
4	22	thin	0
5	23	thin	2





Victim(personID, injuries):

	 PERSONID ↕	 INJURIES ↕
1	11	multiple stab wounds
2	12	first-degree burn
3	13	first-degree burn
4	19	concussion
5	21	internal bleeding

Bystander(personID, phoneNumber):

	 PERSONID ↕	 PHONENUMBER ↕
1	10	2363223280
2	14	7786043914
3	16	6043210987
4	18	6046046046
5	19	7787787788

Reporter(name, address, phoneNumber, email):

	 NAME ↕	 ADDRESS ↕	 PHONENUMBER ↕	 EMAIL ↕
1	Captain Marvel	123 Hero Lane, Super City	5551111987	captain.marvel@gmail.com
2	Iron Man	456 Stark Tower, New York City	5552222987	iron.man@gmail.com
3	Wonder Woman	789 Amazon Island, Paradise	5553333987	wonder.woman@gmail.com
4	Spider-Man	101 Web Avenue, Marvel City	5554444987	spider.man@gmail.com
5	Black Widow	202 Spy Street, Shadowland	5555555987	black.widow@gmail.com
6	Timothy Jimothy Jones	12271 Mitchell Rd., Richmond	7789696024	tj.jones@gmail.com




ReportedBy(incidentID, email, dateReported):

	INCIDENTID	EMAIL	DATEREPORTED
1	1	captain.marvel@gmail.com	2023-10-20
2	2	iron.man@gmail.com	2011-11-18
3	3	wonder.woman@gmail.com	2020-02-29
4	4	spider.man@gmail.com	2017-05-09
5	5	black.widow@gmail.com	2010-01-07
6	8	tj.jones@gmail.com	2008-04-20
7	9	tj.jones@gmail.com	2008-04-20
8	10	tj.jones@gmail.com	2020-07-06
9	11	tj.jones@gmail.com	2021-07-06
10	12	tj.jones@gmail.com	2023-06-01



EquipmentInfo(type, weight, color):

	TYPE	WEIGHT	COLOR
1	fire-extinguisher	10	red
2	grenade	2	black
3	hose	20	yellow
4	laptop	1	black
5	gauze	1	white
6	Glock 19 (Handgun)	3	black
7	Smith & Wesson M&P	4	black
8	stretcher	75	white
9	flashlight	2	red
10	alcohol meter	8	grey
11	axe	5	brown
12	ladder	110	silver
13	taser	5	black





EquipmentItem(equipmentID, belongsToBranchID, type):

	 EQUIPMENTID ↕	 BELONGSTOBRANCHID ↕	 TYPE ↕
1	1234	4	fire-extinguisher
2	1235	3	grenade
3	1236	5	hose
4	1237	4	laptop
5	1238	2	gauze
6	1239	6	Glock 19 (Handgun)
7	1240	11	Smith & Wesson M&P
8	1241	9	stretcher
9	1242	11	flashlight
10	1244	8	alcohol meter
11	1245	10	axe
12	1246	10	ladder
13	1247	8	taser

VehicleSpecs(model, numSeats):

	 MODEL ↕	 NUMSEATS ↕
1	Toyota Corolla	5
2	Toyota Camry Hybrid	5
3	ambulance	7
4	firetruck	15
5	Dodge Charger	5

VehicleInfo(licensePlate, **model**, color, **ownedByBranchID**):

	 LICENSEPLATE ↕	 MODEL ↕	 COLOR ↕	 OWNEDBYBRANCHID ↕
1	DONDA4	Toyota Corolla	black	1
2	YANDH1	Toyota Camry Hybrid	grey	3
3	DRI22Y	ambulance	white	2
4	CHANC3	firetruck	red	4
5	SHREK6	Dodge Charger	navy blue	2

(d) All Queries + Location in Code

INSERT QUERY -> Insert a new tuple in IncidentInfo, also triggers new tuple in IncidentStatus (due to foreign key)

Query Implementation Reference: appService.js in createIncident(), starting at line 328

```
INSERT INTO IncidentInfo (
```

```
    incidentID,  
    dateIncident,  
    description
```

```
) VALUES (
```

```
    :incidentID,  
    :dateIncident,  
    :description
```

```
);
```

DELETE QUERY -> Delete a tuple from IncidentStatus (triggers ON DELETE SET NULL for IncidentInfo)

Query Implementation Reference: appService.js in updateIncident(), starting at line 370

```
DELETE FROM IncidentStatus I
```

```
WHERE I.description = :description;
```

UPDATE QUERY -> Update an Incident (IncidentInfo relation) with a new date

Query Implementation Reference: appService.js in updateIncident(), starting at line 364

```
UPDATE IncidentInfo
```

```
SET dateIncident = TO_DATE(:ndate, 'yyyy-MM-dd'),
```

```
    description = :newDescription
```

```
WHERE incidentID = :incidentID;
```

SELECTION QUERY -> Select incidents based on who the user inputted as the email

Query Implementation Reference: appService.js in getIncidents(), starting at line 93

```
SELECT i.incidentID, i.description, i.dateIncident, s.statusValue
```

```
FROM IncidentInfo i, IncidentStatus s, ReportedBy b
```

```
WHERE i.description = s.description AND b.incidentID = i.incidentID AND b.email = :email
```

PROJECTION QUERY -> allows user to choose a few columns to display

Query Implementation Reference: appService.js in getIncidents(), starting at line 137

```
SELECT :col1, :col2, :col3
```

```
FROM :tableName;
```

JOIN QUERY -> Join on IncidentInfo and IncidentStatus so we can see the current status of incidents after a certain date

Query Implementation Reference: appService.js in getIncidents(), starting at line 162

```
SELECT *
```

```
FROM IncidentInfo info, IncidentStatus stat
```

```
WHERE info.dateIncident > TO_DATE(:date, 'DD-MON-YYYY') AND info.description =  
stat.description;
```

AGGREGATION w/ GROUP BY QUERY -> Count the number of incidents in each neighbourhood

Query Implementation Reference: appService.js in getIncidentAggregation(), starting at line 502

```
SELECT L.neighbourhood, COUNT(*) AS TotalIncidents
```

```
FROM OccurredAt OA, Location L
```

```
WHERE OA.address = L.address
```

```
GROUP BY L.neighbourhood;
```

AGGREGATION w/ HAVING QUERY -> Return the total weight of equipment owned by each department with an inventory > 1

Query Implementation Reference: appService.js in getWeightAggregation(), starting at line 515

```
SELECT item.belongsToBranchID, SUM(info.weight) AS EquipmentWeight
```

```
FROM EquipmentInfo info, EquipmentItem item
```

```
WHERE info.type = item.type
```

```
GROUP BY item.belongsToBranchID
```

```
HAVING COUNT(*) > 1;
```

NESTED AGGREGATION w/ GROUP BY QUERY -> Return the neighbourhoods with more police stations than fire stations

Query Implementation Reference: appService.js in getPoliceCalculation(), starting at line 529

```
SELECT L1.neighbourhood
FROM Department D1, Location L1
WHERE D1.locatedAtAddress = L1.address and D1.specialty = 'police'
GROUP BY L1.neighbourhood
HAVING COUNT(*) > (
    SELECT COUNT(*)
    FROM Department D2, Location L2
    WHERE D2.locatedAtAddress = L2.address and D2.specialty = 'fire' and
    L1.neighbourhood = L2.neighbourhood
);
```

DIVISION QUERY -> Return all the neighbourhoods which had an incident, but does not have any first responder departments

Query Implementation Reference: appService.js in getOutstandingCalculation(), starting at line 547

```
SELECT L.neighbourhood
FROM OccurredAt OA, Location L
WHERE OA.address = L.address
GROUP BY L.neighbourhood
MINUS
SELECT L.neighbourhood
FROM Department D, Location L
WHERE D.locatedAtAddress = L.address
GROUP BY L.neighbourhood;
```

(e) Screenshots of Functionality for Each Query Using the GUI

INSERT QUERY

Before:

ID	Status	Date	Description
1	in-progress	2023-10-20T08:00:00.000Z	stabbing
3	closed	2020-02-29T08:00:00.000Z	shooting
4	in-progress	2017-05-09T08:00:00.000Z	bomb threat
2	in-progress	2011-11-17T08:00:00.000Z	arson
5	closed	2010-01-05T08:00:00.000Z	vehicle theft
8	in-progress	2008-04-20T08:00:00.000Z	possession of illegal substances
9	in-progress	2008-04-20T08:00:00.000Z	jaywalking
10	in-progress	2020-07-06T08:00:00.000Z	assault
11	in-progress	2021-07-06T08:00:00.000Z	DUI
12	in-progress	2023-05-24T08:00:00.000Z	human trafficking

During (Submitted new report, incidentID is randomly generated):

Submit Your Report

Email:

Description:

Date:

Status:

Added incident successfully with ID 21

After:

ID	Status	Date	Description
21	Open	2023-12-01T08:00:00.000Z	HI I INSERTED THISs
1	in-progress	2023-10-20T08:00:00.000Z	stabbing
3	closed	2020-02-29T08:00:00.000Z	shooting
4	in-progress	2017-05-09T08:00:00.000Z	bomb threat
2	in-progress	2011-11-17T08:00:00.000Z	arson
5	closed	2010-01-05T08:00:00.000Z	vehicle theft
8	in-progress	2008-04-20T08:00:00.000Z	possession of illegal substances
9	in-progress	2008-04-20T08:00:00.000Z	jaywalking
10	in-progress	2020-07-06T08:00:00.000Z	assault
11	in-progress	2021-07-06T08:00:00.000Z	DUI
12	in-progress	2023-05-24T08:00:00.000Z	human trafficking

DELETE QUERY

Before:

ID	Status	Date	Description
21	Open	2023-12-01T08:00:00.000Z	HI I INSERTED THISs
1	in-progress	2023-10-20T08:00:00.000Z	stabbing
3	closed	2020-02-29T08:00:00.000Z	shooting
4	in-progress	2017-05-09T08:00:00.000Z	bomb threat
2	in-progress	2011-11-17T08:00:00.000Z	arson
5	closed	2010-01-05T08:00:00.000Z	vehicle theft
8	in-progress	2008-04-20T08:00:00.000Z	possession of illegal substances
9	in-progress	2008-04-20T08:00:00.000Z	jaywalking
10	in-progress	2020-07-06T08:00:00.000Z	assault
11	in-progress	2021-07-06T08:00:00.000Z	DUI
12	in-progress	2023-05-24T08:00:00.000Z	human trafficking

During (Delete the same incident created in the INSERT QUERY):

Delete Incident

Incident ID:

Successfully deleted incident

After:

ID	Status	Date	Description
1	in-progress	2023-10-20T08:00:00.000Z	stabbing
3	closed	2020-02-29T08:00:00.000Z	shooting
4	in-progress	2017-05-09T08:00:00.000Z	bomb threat
2	in-progress	2011-11-17T08:00:00.000Z	arson
5	closed	2010-01-05T08:00:00.000Z	vehicle theft
8	in-progress	2008-04-20T08:00:00.000Z	possession of illegal substances
9	in-progress	2008-04-20T08:00:00.000Z	jaywalking
10	in-progress	2020-07-06T08:00:00.000Z	assault
11	in-progress	2021-07-06T08:00:00.000Z	DUI
12	in-progress	2023-05-24T08:00:00.000Z	human trafficking

UPDATE QUERY

Before:

ID	Status	Date	Description
1	in-progress	2023-10-20T08:00:00.000Z	stabbing
3	closed	2020-02-29T08:00:00.000Z	shooting
4	in-progress	2017-05-09T08:00:00.000Z	bomb threat
2	in-progress	2011-11-17T08:00:00.000Z	arson
5	closed	2010-01-05T08:00:00.000Z	vehicle theft
8	in-progress	2008-04-20T08:00:00.000Z	possession of illegal substances
9	in-progress	2008-04-20T08:00:00.000Z	jaywalking
10	in-progress	2020-07-06T08:00:00.000Z	assault
11	in-progress	2021-07-06T08:00:00.000Z	DUI
12	in-progress	2023-05-24T08:00:00.000Z	human trafficking

During (updated incident 1 with new description, date, and status):

Update your report

Incident ID:

New Description:

Date:

Status:

Updated incident successfully

After:

ID	Status	Date	Description
1	Cancelled	2023-12-01T08:00:00.000Z	domestic violence
3	closed	2020-02-29T08:00:00.000Z	shooting
4	in-progress	2017-05-09T08:00:00.000Z	bomb threat
2	in-progress	2011-11-17T08:00:00.000Z	arson
5	closed	2010-01-05T08:00:00.000Z	vehicle theft
8	in-progress	2008-04-20T08:00:00.000Z	possession of illegal substances
9	in-progress	2008-04-20T08:00:00.000Z	jaywalking
10	in-progress	2020-07-06T08:00:00.000Z	assault
11	in-progress	2021-07-06T08:00:00.000Z	DUI
12	in-progress	2023-05-24T08:00:00.000Z	human trafficking

SELECTION QUERY

Before:

ID	Status	Date	Description
1	Cancelled	2023-12-01T08:00:00.000Z	domestic violence
3	closed	2020-02-29T08:00:00.000Z	shooting
4	in-progress	2017-05-09T08:00:00.000Z	bomb threat
2	in-progress	2011-11-17T08:00:00.000Z	arson
5	closed	2010-01-05T08:00:00.000Z	vehicle theft
8	in-progress	2008-04-20T08:00:00.000Z	possession of illegal substances
9	in-progress	2008-04-20T08:00:00.000Z	jaywalking
10	in-progress	2020-07-06T08:00:00.000Z	assault
11	in-progress	2021-07-06T08:00:00.000Z	DUI
12	in-progress	2023-05-24T08:00:00.000Z	human trafficking

During (selecting all crimes reported by tj.jones@gmail.com):

Show your incidents

Your email:

After:

ID	Description	Date	Status
8	possession of illegal substances	2008-04-20T08:00:00.000Z	in-progress
9	jaywalking	2008-04-20T08:00:00.000Z	in-progress
10	assault	2020-07-06T08:00:00.000Z	in-progress
11	DUI	2021-07-06T08:00:00.000Z	in-progress
12	human trafficking	2023-05-24T08:00:00.000Z	in-progress
24	adsfasdf	2023-12-06T08:00:00.000Z	Open
16	I have a problemss	2023-12-01T08:00:00.000Z	Open

PROJECTION QUERY

Before:

ID	Status	Date	Description
1	Cancelled	2023-12-01T08:00:00.000Z	domestic violence
3	closed	2020-02-29T08:00:00.000Z	shooting
4	in-progress	2017-05-09T08:00:00.000Z	bomb threat
2	in-progress	2011-11-17T08:00:00.000Z	arson
5	closed	2010-01-05T08:00:00.000Z	vehicle theft
8	in-progress	2008-04-20T08:00:00.000Z	possession of illegal substances
9	in-progress	2008-04-20T08:00:00.000Z	jaywalking
10	in-progress	2020-07-06T08:00:00.000Z	assault
11	in-progress	2021-07-06T08:00:00.000Z	DUI
12	in-progress	2023-05-24T08:00:00.000Z	human trafficking

During (chose to only display the IncidentID, Description, Status attributes):

Show the following:

☒ Incident ID ☒ Description ☐ Date Incident Occurred ☒ Status

After:

ID	Status	Description
1	Cancelled	domestic violence
3	closed	shooting
4	in-progress	bomb threat
2	in-progress	arson
5	closed	vehicle theft
8	in-progress	possession of illegal substances
9	in-progress	jaywalking
10	in-progress	assault
11	in-progress	DUI
12	in-progress	human trafficking

JOIN QUERY

Before (IncidentStatus and IncidentInfo):

DESCRIPTION	STATUSVALUE	INCIDENTID	DATEINCIDENT	DESCRIPTION
stabbing	in-progress	1	2023-10-20	stabbing
murder	in-progress	2	2011-11-17	arson
shooting	closed	3	2020-02-29	shooting
burglary	closed	4	2017-05-09	bomb threat
bomb threat	in-progress	5	2010-01-05	vehicle theft
arson	in-progress	6	2010-11-16	burglary
vehicle theft	closed	7	2023-06-08	murder
possession of illegal substances	in-progress	8	2008-04-20	possession of illegal substances
jaywalking	in-progress	9	2008-04-20	jaywalking
assault	in-progress	10	2020-07-06	assault
DUI	in-progress	11	2021-07-06	DUI
human trafficking	in-progress	12	2023-05-24	human trafficking

During and After (display of our incidents, automatic displayed on the police page):

Show all Incidents

Show the following:

☒ Incident ID ☒ Description ☒ Date Incident Occurred ☒ Status

Filter by:

All incidents

before

yyyy - mm - dd

Sort by:

Choose a column

☐ Ascending ☐ Descending ☒ None

Search for:

☐ OR ☒ AND

Reporter's email is

Status is

ID	Status	Date	Description
1	Cancelled	2023-12-01T08:00:00.000Z	domestic violence
3	closed	2020-02-29T08:00:00.000Z	shooting
4	in-progress	2017-05-09T08:00:00.000Z	bomb threat
2	in-progress	2011-11-17T08:00:00.000Z	arson
5	closed	2010-01-05T08:00:00.000Z	vehicle theft
8	in-progress	2008-04-20T08:00:00.000Z	possession of illegal substances
9	in-progress	2008-04-20T08:00:00.000Z	jaywalking
10	in-progress	2020-07-06T08:00:00.000Z	assault
11	in-progress	2021-07-06T08:00:00.000Z	DUI
12	in-progress	2023-05-24T08:00:00.000Z	human trafficking

AGGREGATION WITH GROUP BY QUERY

Before:

OCCURREDAT

INCIDENTID ADDRESS

1	142 Water St.
2	6426 Kerr St.
3	100 W 49th Ave.
4	1755 E 55th Ave.
5	2996 W 5th Ave.
6	1688 W 29th Ave.
7	712 Lost Lagoon Path
8	5832 Olympic St.
9	5391 Knight St.
10	2036 Main Mall
11	710 Granville St.
12	8589 Fraser St.

LOCATION

ADDRESS

1755 E 55th Ave.
142 Water St.
100 W 49th Ave.
6426 Kerr St.
712 Lost Lagoon Path
1688 W 29th Ave.
2996 W 5th Ave.
2120 Cambie St.
1081 Burrard St.
238 E Cordova St.
1475 W 10th Ave.
5425 Carnarvon St.
4830 Nanaimo St.
5402 Victoria Dr.
6070 East Blvd.
899 W 12th Ave.
1005 W 59th Ave.
872 E Hastings St.
2992 Wesbrook Mall
3080 Prince Edward St.
5832 Olympic St.
2036 Main Mall
5391 Knight St.
710 Granville St.
8589 Fraser St.

NEIGHBOURHOOD

Victoria - Fraserview
Downtown
Marpole
Killarney
Stanley Park
Shaughnessy
Kitsilano
Mount Pleasant
Downtown
Fairview
Kerrisdale
Kensington - Cedar Cottage
Kensington - Cedar Cottage
Kerrisdale
Fairview
Marpole
Strathcona
University Endowment Lands
Mount Pleasant
Dunbar - Southlands
University Endowment Lands
Kensington - Cedar Cottage
Downtown
Sunset

During and After (triggered by pressing the button):

Neighbourhood Incidents

Load Neighbourhood Incidents

Downtown: 2

Dunbar - Southlands: 1

Killarney: 1

University Endowment Lands: 1

Sunset: 1

Victoria - Fraserview: 1

Stanley Park: 1

Shaughnessy: 1

Kitsilano: 1

Marpole: 1

Kensington - Cedar Cottage: 1

AGGREGATION WITH HAVING QUERY

Before:

EQUIPMENTINFO			EQUIPMENTITEM		
TYPE	WEIGHT	COLOR	EQUIPMENTID	BELONGSTOBRANCHID	TYPE
fire-extinguisher	10	red	1234	4	fire-extinguisher
grenade	2	black	1235	3	grenade
hose	20	yellow	1236	5	hose
laptop	1	black	1237	4	laptop
gauze	1	white	1238	2	gauze
Glock 19 (Handgun)	3	black	1239	6	Glock 19 (Handgun)
Smith & Wesson M&P	4	black	1240	11	Smith & Wesson M&P
stretcher	75	white	1241	9	stretcher
flashlight	2	red	1242	11	flashlight
alcohol meter	8	grey	1244	8	alcohol meter
axe	5	brown	1245	10	axe
ladder	110	silver	1246	10	ladder
taser	5	black	1247	8	taser

During and After:

Equipments and Weights

Calculate the total weight of equipment for each department

Department ID 11 has weight 6

Department ID 8 has weight 13

Department ID 4 has weight 11

Department ID 10 has weight 115

NESTED AGGREGATION WITH GROUP BY QUERY

Before:

DEPARTMENT			LOCATION	
BRANCHID	SPECIALTY	LOCATEDAT	ADDRESS	NEIGHBOURHOOD
1	police	2120 Cambie St.	1755 E 55th Ave.	Victoria - Fraserview
2	hospital	1081 Burrard St.	142 Water St.	Downtown
3	police	238 E Cordova St.	100 W 49th Ave.	Marpole
4	fire	1475 W 10th Ave.	6426 Kerr St.	Killarney
5	fire	5425 Carnarvon St.	712 Lost Lagoon Path	Stanley Park
6	police	4830 Nanaimo St.	1688 W 29th Ave.	Shaughnessy
7	fire	5402 Victoria Dr.	2996 W 5th Ave.	Kitsilano
8	police	6070 East Blvd.	2120 Cambie St.	Mount Pleasant
9	hospital	899 W 12th Ave.	1081 Burrard St.	Downtown
10	fire	1005 W 59th Ave.	238 E Cordova St.	Downtown
11	police	872 E Hastings St.	1475 W 10th Ave.	Fairview
12	fire	2992 Wesbrook Mall	5425 Carnarvon St.	Kerrisdale
13	hospital	3080 Prince Edward St.	4830 Nanaimo St.	Kensington - Cedar Cottage
			5402 Victoria Dr.	Kensington - Cedar Cottage
			6070 East Blvd.	Kerrisdale
			899 W 12th Ave.	Fairview
			1005 W 59th Ave.	Marpole
			872 E Hastings St.	Strathcona
			2992 Wesbrook Mall	University Endowment Lands
			3080 Prince Edward St.	Mount Pleasant
			5832 Olympic St.	Dunbar - Southlands
			2036 Main Mall	University Endowment Lands
			5391 Knight St.	Kensington - Cedar Cottage
			710 Granville St.	Downtown
			8589 Fraser St.	Sunset

During and After (triggered by pressing the button):

Police Stations and Fire Stations

Load Neighbourhoods with More Police Stations than Fire Stations

Downtown

Mount Pleasant

Strathcona

DIVISION QUERY

Before:

OCCURREDAT		LOCATION	
INCIDENTID	ADDRESS	ADDRESS	NEIGHBOURHOOD
1	142 Water St.	1755 E 55th Ave.	Victoria - Fraserview
2	6426 Kerr St.	142 Water St.	Downtown
3	100 W 49th Ave.	100 W 49th Ave.	Marpole
4	1755 E 55th Ave.	6426 Kerr St.	Killarney
5	2996 W 5th Ave.	712 Lost Lagoon Path	Stanley Park
6	1688 W 29th Ave.	1688 W 29th Ave.	Shaughnessy
7	712 Lost Lagoon Path	2996 W 5th Ave.	Kitsilano
8	5832 Olympic St.	2120 Cambie St.	Mount Pleasant
9	5391 Knight St.	1081 Burrard St.	Downtown
10	2036 Main Mall	238 E Cordova St.	Fairview
11	710 Granville St.	1475 W 10th Ave.	Kerrisdale
12	8589 Fraser St.	5425 Carnarvon St.	Kensington - Cedar Cottage
		4830 Nanaimo St.	Kensington - Cedar Cottage
		5402 Victoria Dr.	Kerrisdale
		6070 East Blvd.	Fairview
		899 W 12th Ave.	Marpole
		1005 W 59th Ave.	Strathcona
		872 E Hastings St.	University Endowment Lands
		2992 Westbrook Mall	Mount Pleasant
		3080 Prince Edward St.	Dunbar - Southlands
		5832 Olympic St.	University Endowment Lands
		2036 Main Mall	Kensington - Cedar Cottage
		5391 Knight St.	Downtown
		710 Granville St.	Sunset
		8589 Fraser St.	

During and After (triggered by pressing the button):

Outstanding Cases

Load Neighbourhoods with incidents but no departments

Dunbar - Southlands

Killarney

Kitsilano

Shaughnessy

Stanley Park

Sunset

Victoria - Fraserview