

CPSC 304 Project Cover Page

Milestone #: 4

Date(DD/MM/YYYY): 1/12/23

Group Number: 40

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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

Project Description

Our project is a real estate listing viewing application. The user can search through listings as well as edit some information. Some additional information can also be viewed — see queries for details.

Changes

We changed ManagesListing to a one-to-many relationship (many real estate agents to one listing). Having just one agent per listing is very common, so having it this way simplifies some things and is easier to model.

Queries

(bolded are queries for the requirements)

Create tables - src/ca/ubc/cs304/sql/scripts/SQLScripts.java

Initial data - src/ca/ubc/cs304/sql/scripts/InitialData.java

INSERT - dynamically generated. The INSERT query for each type of entity can be found in its code: `src/ca/ubc/cs304/model/entity`

The screenshot shows the Oracle SQL Developer interface. On the left, there is a table view titled "CITY" with columns PROVINCE, NAME, and TAXRATE. The data includes rows for AB, QC, MB, BC, ON, and other entries. A yellow box highlights the text "Before Adding data City Table". On the right, the "Database" sidebar shows a tree structure of tables under the schema "ORA_BANSAL21", with "CITY" selected.

| PROVINCE | NAME | TAXRATE |
|----------|-----------|---------|
| AB | Calgary | 0.11 |
| QC | Montreal | 0.14 |
| MB | Winnipeg | 0.1 |
| BC | Vancouver | 0.08 |
| ON | Toronto | 0.1 |
| ON | jaa | 1 |
| BC | Calgary | 1 |
| ON | London | 1 |
| ON | kavy | 4 |

On screenshot below, click "Save"

The screenshot shows a Mac desktop with a "City Form" application window open. The form has fields for Province (NOVA_SCOTIA), Name (HALIFAX), and Tax Rate (30.4). Below the form is a message box saying "Success". In the background, a terminal window shows the command `insertData(EntityModel data, Integer id)`. At the bottom, a table view shows the same data as the first screenshot, now including a new row for NS (Nova Scotia) with ID 10. A yellow box highlights the text "After adding data NS is added to database".

insertData(EntityModel data, Integer id)
Similary all other tables will have data added

| PROVINCE | NAME | TAXRATE |
|----------|-----------|---------|
| AB | Calgary | 0.11 |
| QC | Montreal | 0.14 |
| MB | Winnipeg | 0.1 |
| BC | Vancouver | 0.08 |
| ON | Toronto | 0.1 |
| ON | jaa | 1 |
| BC | Calgary | 1 |
| ON | London | 1 |
| NS | HALIFAX | 1 |
| ON | kavy | 4 |

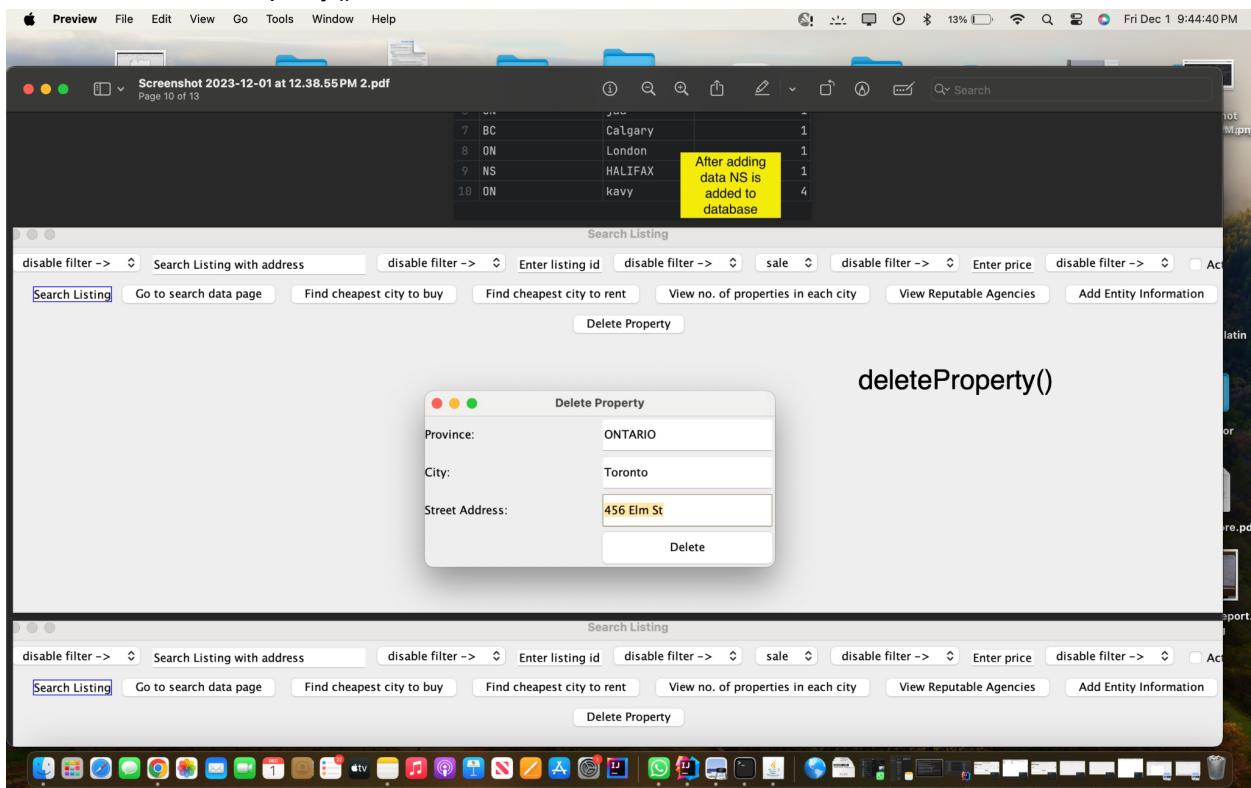
Queries below can all be found inside:

src/ca/ubc/cs304/database/DatabaseConnectionHandler.java

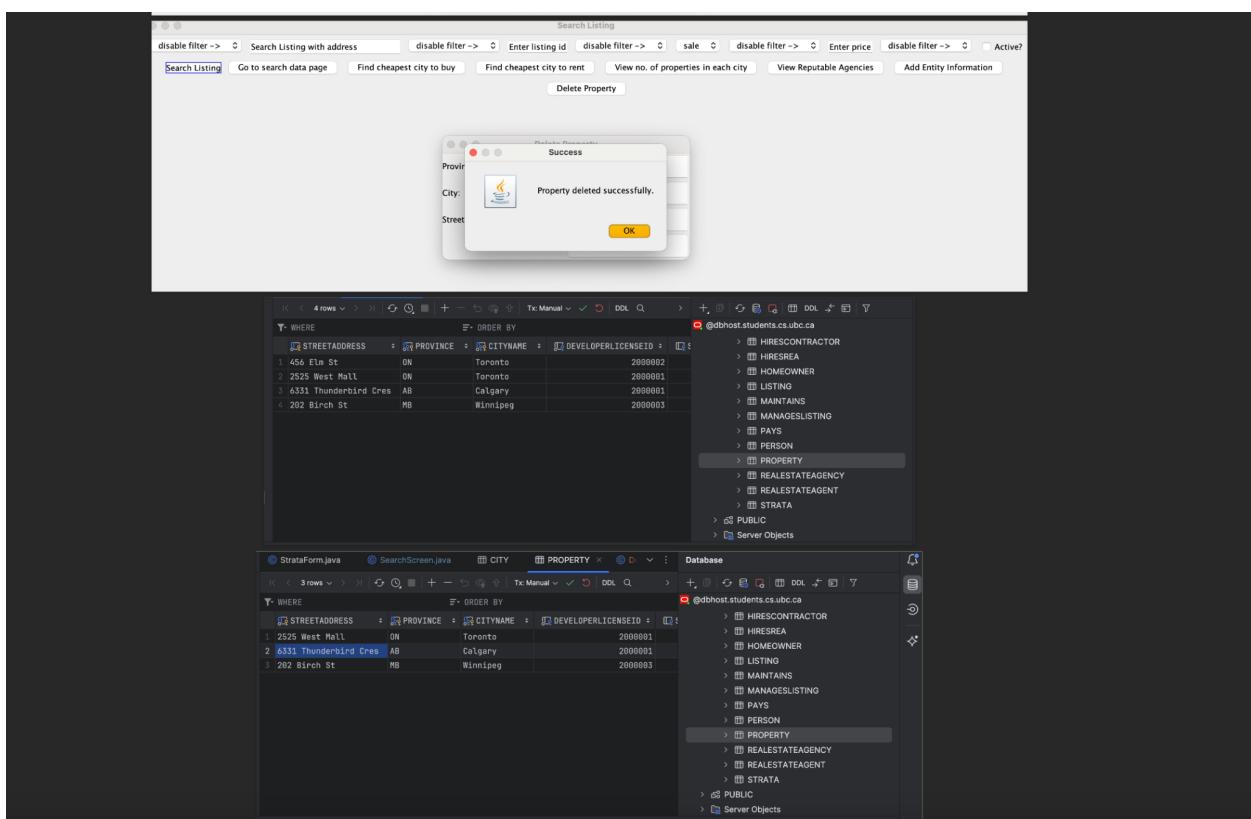
Drop tables - dropTablesIfExist()

Get largest id or create new - generateId()

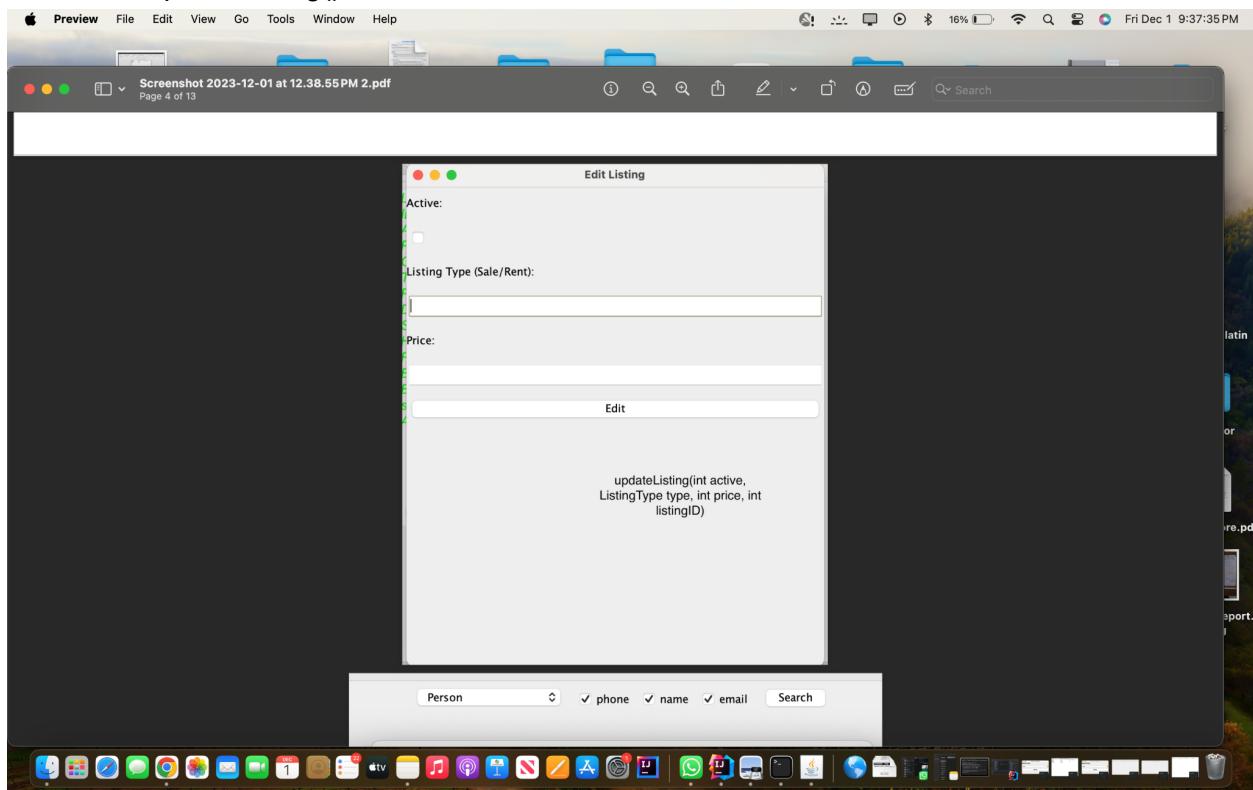
DELETE - deleteProperty()



Click "Delete"

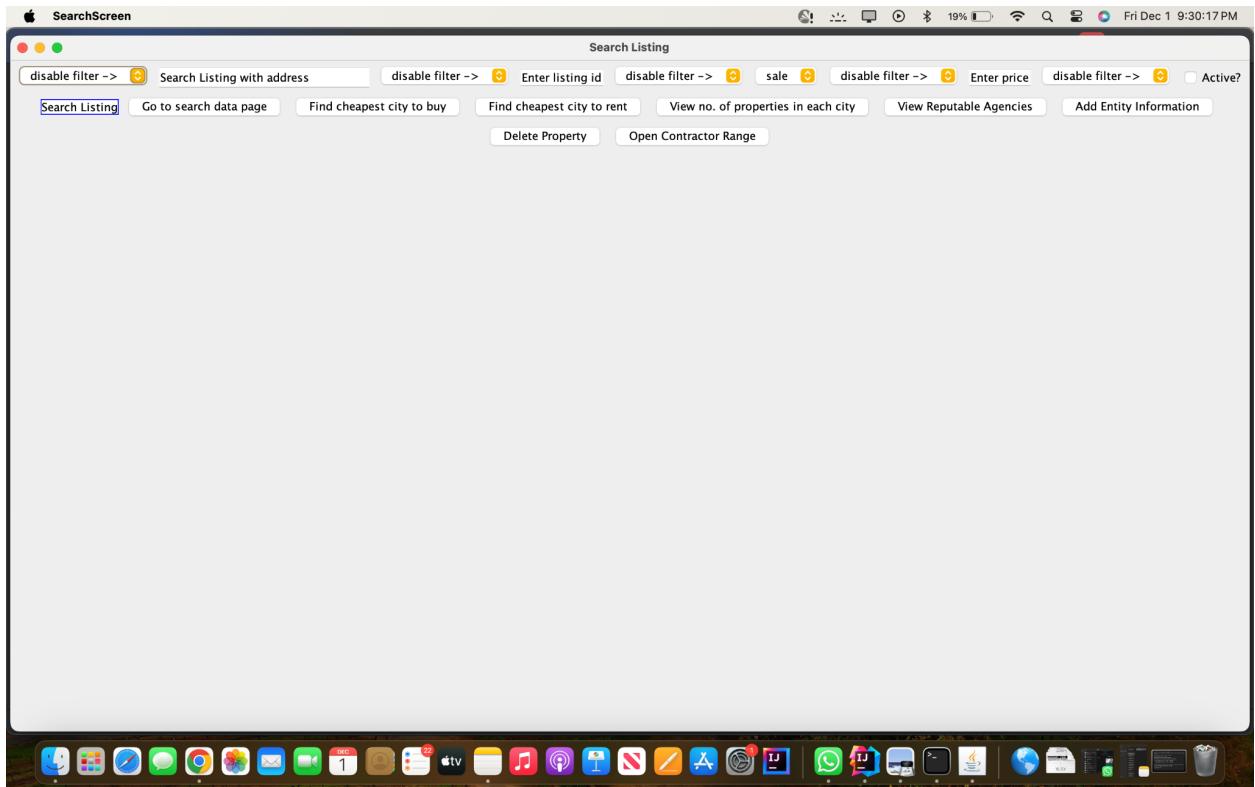


UPDATE - updateListing()



Click "Edit"

Selection - getListings()

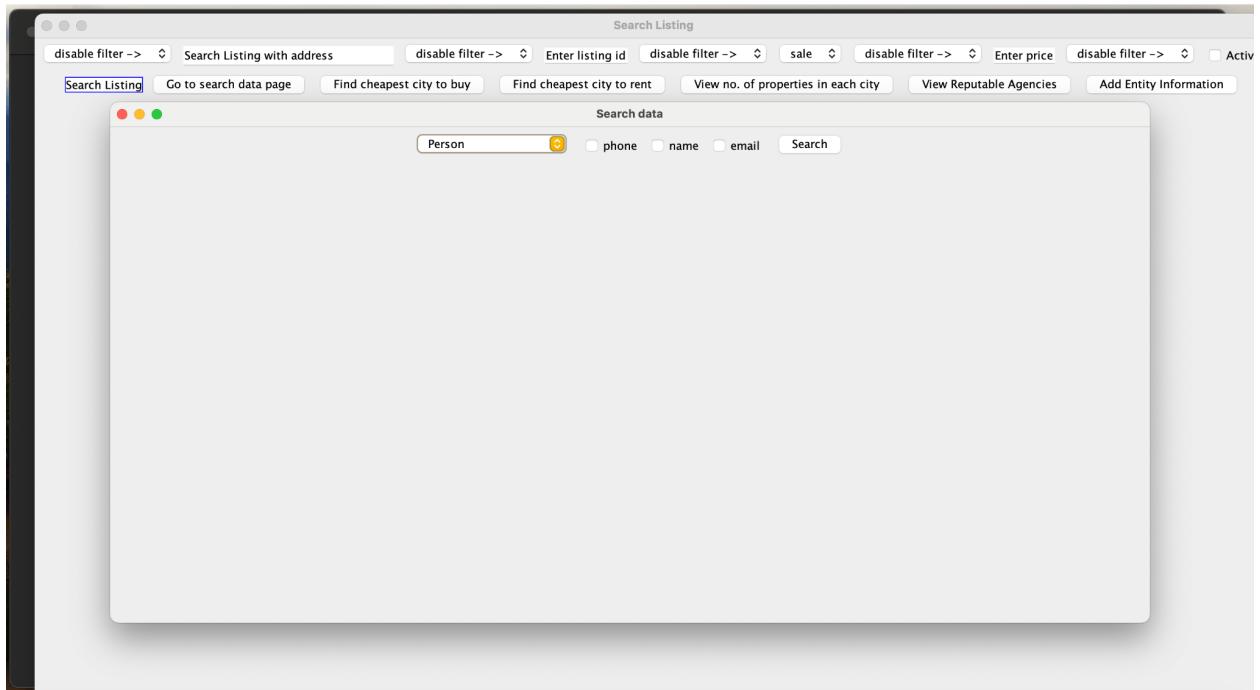


Click “Search Listing” after inputting search criteria in the top row

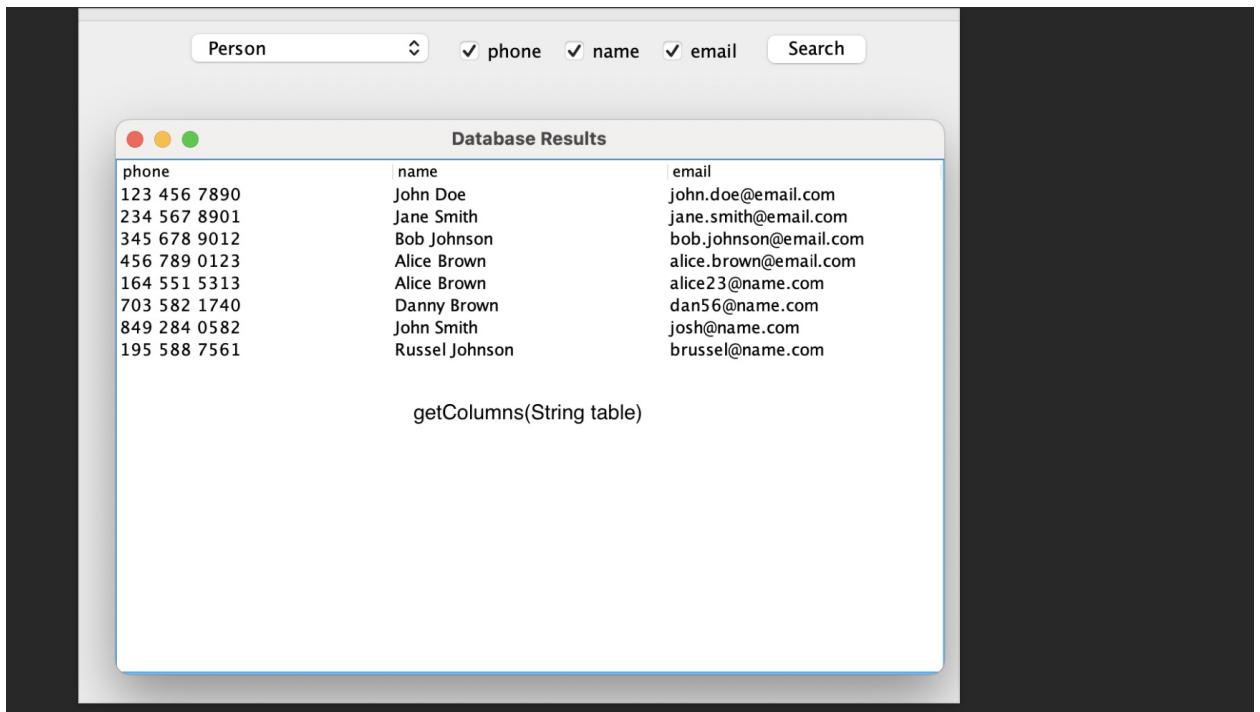
A screenshot of a search results interface. It displays five property listings in a grid format. Each listing includes an ID, address, price, and a "View" button. To the right of the last listing, there is a callout box containing the text "getListings(List<String> parameters)".

| | |
|---|-----------------------|
| ID: 5000001 Address: 123 Main St Price: 500000 | <button>View</button> |
| ID: 5000002 Address: 456 Elm St Price: 700000 | <button>View</button> |
| ID: 5000003 Address: 2525 West Mall Price: 2500 | <button>View</button> |
| ID: 5000004 Address: 6331 Thunderbird Cres Price: 1000000 | <button>View</button> |
| ID: 5000005 Address: 202 Birch St Price: 3000 | <button>View</button> |

Projection - projectData()



Select a table, select columns, and click “Search”



Join - getListingInfo()

ID: 5000001| Address: 123 Main St| Price: 500000|

ID: 5000002| Address: 456 Elm St| Price: 700000|

ID: 5000003| Address: 2525 West Mall| Price: 2500| getListings(List<String> parameters)

ID: 5000004| Address: 6331 Thunderbird Cres| Price: 1000000|

ID: 5000005| Address: 202 Birch St| Price: 3000|

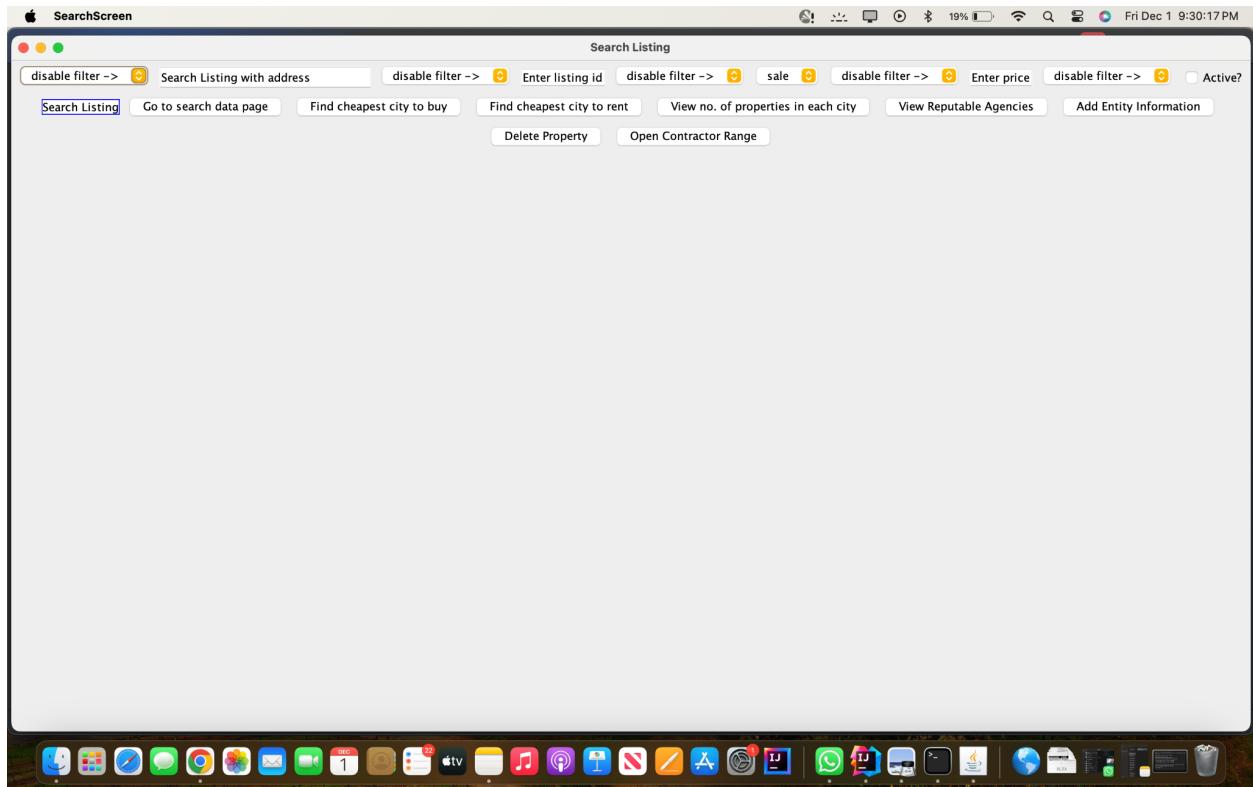
Click "View"

Listing Info is below:
ID: 5000001
Address: 123 Main St
Province: BRITISH_COLUMBIA
City: Vancouver
Type: SALE
Price: \$500000
DeveloperLicenseID: 2000001
Strata Id: 4000001
Homeowner Phone: 123 456 7890
Real Estate Agent Phone: 123 456 7890
Bedrooms: 2
Bathrooms: 2
sizeInSqft: 1200
Active: Yes

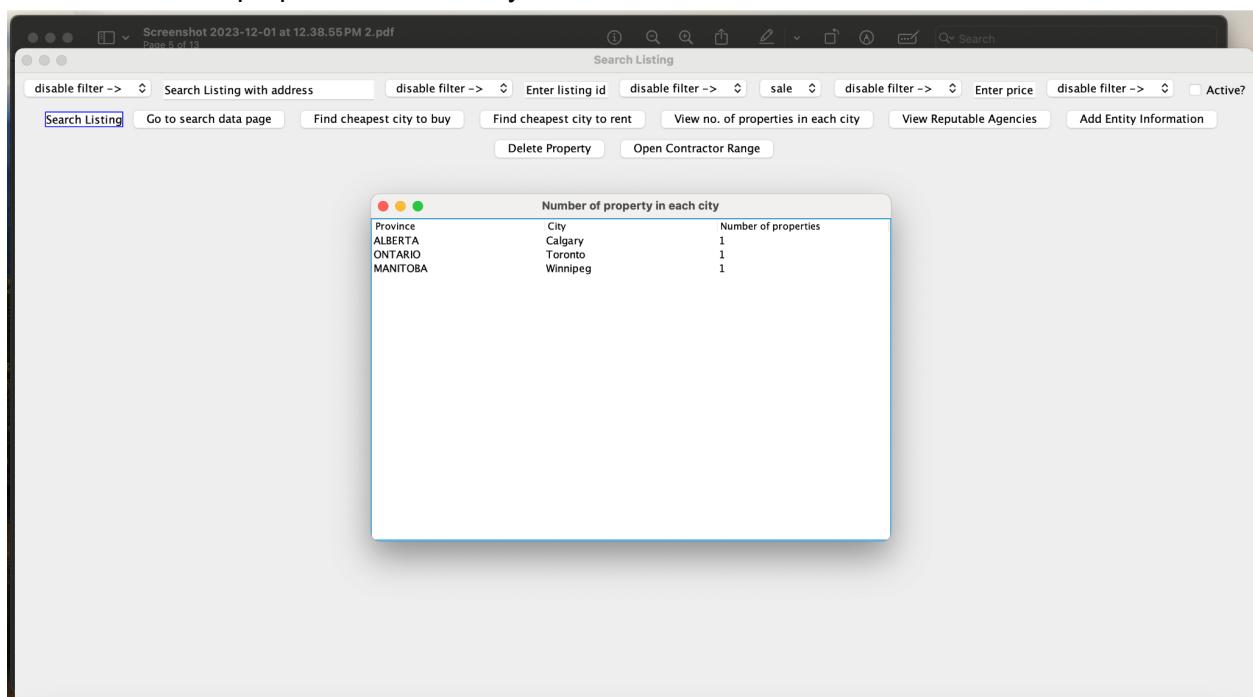
getListingInfo(Integer listingID)

Back Edit Delete

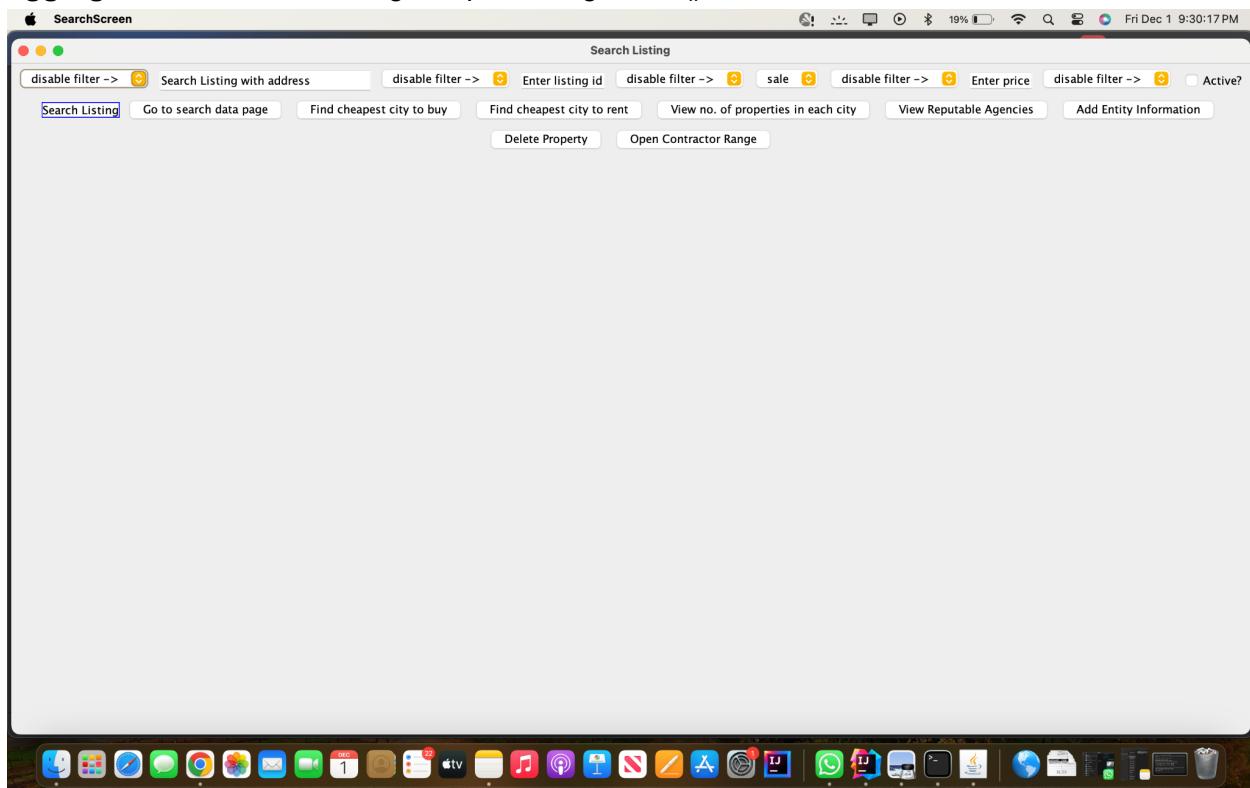
Aggregation with GROUP BY - getPropertyCountByCity()



Click “View no. of properties in each city”



Aggregation with HAVING - getReputableAgencies()



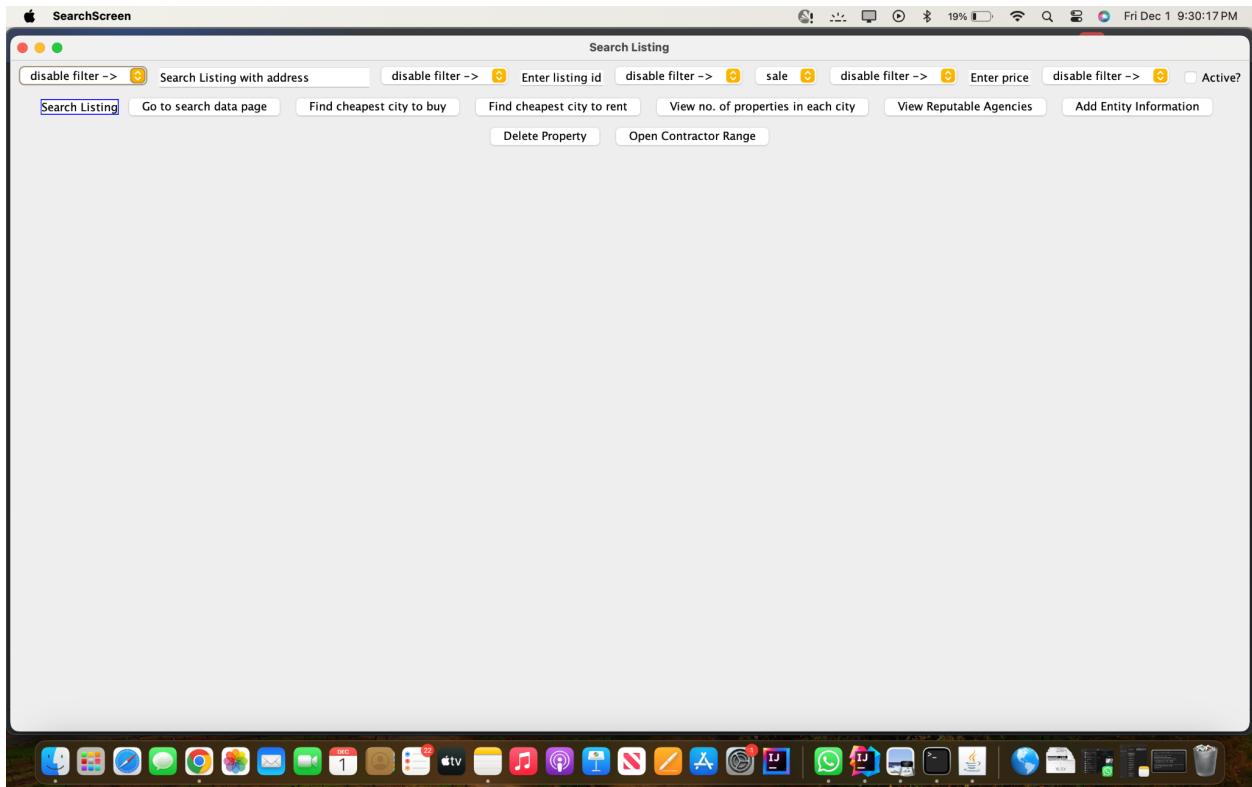
Click “View Reputable Agencies”

A screenshot of a modal window titled "Reputable Agencies". The window contains a table with the following data:

| Agency ID | Agency Name | Rating | Agent Count | Avg Experience |
|-----------|-------------|--------|-------------|------------------|
| 1000001 | ABC Realty | 4.5 | 3 | 4.66666666666... |
| 1000002 | XYZ Realty | 4.2 | 2 | 1.5 |

getReputableAgencies()

Nested Aggregation with GROUP BY - findCheapestCity()



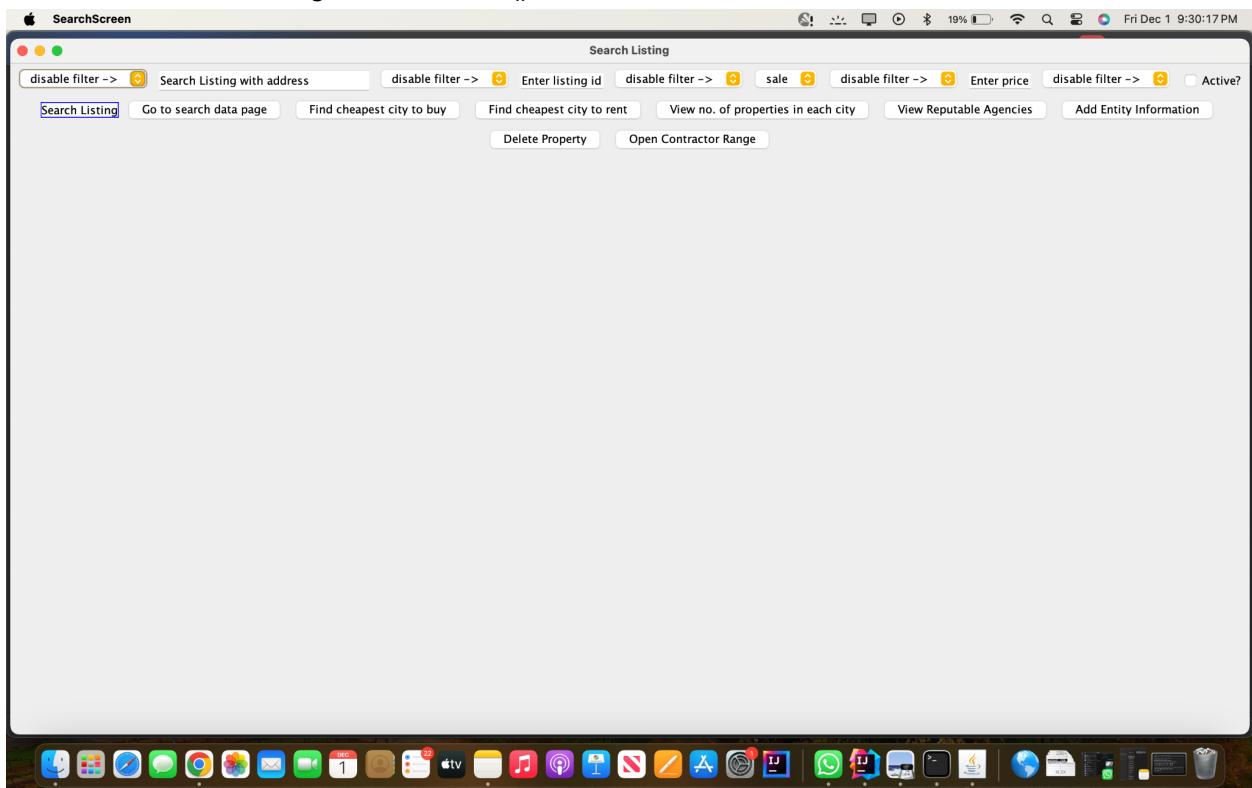
Click “Find cheapest city to buy/rent”

A screenshot of a modal dialog box titled "Cheapest city". It contains a table with four columns: Province, City, Listing type, and Average price per sqft. The data is as follows:

| Province | City | Listing type | Average price per sqft |
|------------------|-----------|--------------|------------------------|
| BRITISH_COLUMBIA | Vancouver | SALE | 416.66666666666667 |

findCheapestCity(ListingType listingType)

Division - findWideRangedContractors()



Click "Open Contractor Range"

| | | | |
|--------------------------|--|--|---------------------------------|
| Contractor ID 3000002 | Contractor Name FixAll Construction | Province [ALBERTA, ONTARIO, MANITOBA] | Cities Involved [1, 2, 1, 1] |
|--------------------------|--|--|---------------------------------|