

Project Description

Swipemates is an innovative roommate-matching application specifically meant for UBC students. The application aims to ease the process of finding accommodation both on and off campus. Through this project, users can create detailed profiles, including their living preferences, and requirements. This application provides functionalities to filter search queries, perform aggregation on residence data, and execute complex SQL queries such as division and natural join, enhancing the user experience.

Relational Schema (Primary Key: Underline, Foreign Key: Bold, Candidate Key: *Italics*)

- User (UserID: varchar, Name: varchar NOT NULL, Gender: varchar NOT NULL, Age: integer, Bio: varchar NOT NULL, DOB: Date NOT NULL)
- ISA: Lister_LivesIn (**ListerID**: varchar, **ResID**: varchar NOT NULL, Rent: integer NOT NULL, Property Type: varchar NOT NULL)
- ISA: Seeker (**SeekerID**: varchar, Maximum Rent Budget: integer, Seeking Type: varchar)
- Residence (**ResID**: varchar, Address: varchar, Amenities: varchar, Number of Floors: integer, Building Name: varchar, Number of Rooms: integer)
- LookingFor (**ResID**: varchar, **UserID**: varchar)
- Preferences (**PreferencesID**: varchar, Preferred Gender: varchar, Preferred Age-Range: varchar, Preferred Lifestyle: varchar, Preferred Location: varchar)
- Selects (**UserID**: varchar, **PreferencesID**: varchar)
- Requirements (**RequirementsID**: varchar, Required Gender: varchar, Required Age-Range: varchar, Required Lifestyle: varchar, Required Location: varchar)
- Needs (**UserID**: varchar)
- Receives_Match (MatchID: varchar, **UserID**: varchar NOT NULL, **MatchUserID**: varchar NOT NULL)
- Gets_Notification (**MatchID**: varchar, Number: integer NOT NULL, Message: varchar NOT NULL)
- CompatibilityScore (**MatchID**: varchar, Score: varchar NOT NULL, Message: varchar)
- SocialPage_Has (EmailID: varchar, **UserID**: varchar, *Phone Number*: integer, *Instagram Username*: varchar)
- Swipe_Right (MatchUserId: varchar, **UserID**: varchar)

Changes

The final schema for the SwipeMates project went through several changes compared to the one submitted initially, primarily because of constraints of time and Oracle limitations.

Due to limited time, we focused on the main functionality of the application which meant tables like the Receives_Match, Gets_Notification, and CompatibilityScore were not fully implemented. These tables were not critical for the basic operation of the application. Therefore, the DDL statements and insertion operations for these tables were not included.

The data types in the original schema needed changes to align with Oracle-supported data types, for ex. The 'TEXT' data type is not supported by Oracle (changed to Varchar).

In Preferences and Requirements, the ids were the primary key, but we modified it to become foreign keys referencing userID in the Users table. This helped us simplify the database.

Oracle does not support 'ON UPDATE CASCADE' command. As a result, this is was removed from the Create Table statements.

USERS

	USERID	NAME	GENDER	BIO	AGE
1	L123456	Devin Proothi	Male	UBC, Year 3, CS.	24
2	S123456	Aryaan Habib	Male	UBC, Year 3, Forestry.	36
3	L101010	Nabeel Ali	Female	UBC. Year 3. Psychology.	34
4	S101010	Kartikeya Chaturvedi	Male	UBC. Year 4. Sauder	24
5	S987654	Aaditya Desai	Male	UBC. Year 3. English.	31
6	L765432	Sid Jain	Male	UBC. Year 6. International Relations.	24
7	L345678	Rishav	Male	UBC. Year 5. International Relations.	31
8	L012120	Aneyeant	Female	UBC. Year 1. International Relations.	31
9	S765432	Anmol	Male	UBC. Year 3. International Relations.	36
10	S012120	Jaimin	Male	UBC. Year 4. International Relations.	34
11	L012128	Jai	Female	UBC. Year 4. International Relations.	24
12	S012129	Man	Female	UBC. Year 4. International Relations.	26
13	L876543	Alex Smith	Male	UBC. Year 2. Computer Science.	20
14	L123789	Jessica Jones	Female	UBC. Year 1. Biology.	18
15	L456123	Michael Chen	Male	UBC. Year 3. Economics.	21
16	L789456	Laura Gibson	Female	UBC. Year 2. English Literature.	19
17	S321654	Omar Farooq	Male	UBC. Year 3. Political Science.	22
18	S654987	Priya Singh	Female	UBC. Year 1. Sociology.	18
19	S987321	Ethan Wong	Male	UBC. Year 2. Mathematics.	20
20	S159753	Sophia Loren	Female	UBC. Year 3. Fine Arts.	21

PREFERENCES

	PREFERENCESID	PREFERREDGENDER	PREFERREDAGERANGE	PREFERREDLIFESTYLE	PREFERREDLOCATION
1	L123456	Female	26-30	Active	Off Campus
2	S123456	Female	31-40	Quiet	On Campus
3	L101010	Other	18-25	Active	<null>
4	S101010	Male	31-40	Quiet	On Campus
5	S987654	Other	<null>	Active	Off Campus
6	L765432	Female	41-50	Quiet	On Campus
7	L345678	Male	18-25	Active	Off Campus
8	L012120	Other	31-40	Quiet	On Campus
9	S765432	Female	26-30	<null>	Off Campus
10	S012120	Male	41-50	Quiet	On Campus
11	L012128	Other	18-25	Active	Off Campus
12	S012129	<null>	31-40	Quiet	On Campus
13	L876543	Male	26-30	Active	Off Campus
14	L123789	Other	41-50	Quiet	On Campus
15	L456123	Female	18-25	Active	Off Campus
16	L789456	Male	31-40	Quiet	On Campus
17	S321654	Other	26-30	Active	Off Campus
18	S654987	Female	41-50	Quiet	On Campus
19	S987321	Male	18-25	Active	Off Campus
20	S159753	<null>	<null>	<null>	On Campus




REQUIREMENTS

	🔍 REQUIREMENTID	♀️ REQUIREDGENDER	📅 REQUIREDAGERANGE	🏠 REQUIREDLIFESTYLE	📍 REQUIREDLOCATION
1	L123456	Female	26-30	Active	Off Campus
2	S123456	Female	31-40	Quiet	On Campus
3	L101010	Other	18-25	Active	Off Campus
4	S101010	Male	31-40	Quiet	On Campus
5	S987654	Other	26-30	Active	Off Campus
6	L765432	Female	41-50	Quiet	On Campus
7	L345678	Male	18-25	Active	Off Campus
8	L012120	Other	31-40	Quiet	On Campus
9	S765432	Female	26-30	Active	Off Campus
10	S012120	Male	41-50	Quiet	On Campus
11	L012128	Other	18-25	Active	Off Campus
12	S012129	Female	31-40	Quiet	On Campus
13	L876543	Male	26-30	Active	Off Campus
14	L123789	<null>	41-50	Quiet	On Campus
15	L456123	Female	18-25	Active	Off Campus
16	L789456	Male	31-40	<null>	On Campus
17	S321654	Other	26-30	Active	Off Campus
18	S654987	Female	41-50	Quiet	<null>
19	S987321	Male	18-25	Active	Off Campus
20	S159753	<null>	31-40	<null>	<null>



SOCIALPAGEHAS

	📧 EMAILID	👤 USERID	📞 PHONENUMBER	📷 INSTAGRAMUSERNAME
1	devin.proothi@gmail.com	L123456	7780000001	devinproothi
2	aryaan.habib@gmail.com	S123456	7780000002	aryaanhabib
3	nabeel.ali@gmail.com	L101010	7780000003	nabeelali
4	kartikeya.chaturvedi@gmail.com	S101010	7780000004	kartikeyachaturvedi
5	aaditya.desai@gmail.com	S987654	7780000005	aadityadesai
6	sid.jain@gmail.com	L765432	7780000006	sidjain
7	rishav.ubc@gmail.com	L345678	7780000007	rishavubc
8	aneyeant@gmail.com	L012120	7780000008	aneyeant
9	anmol.ubc@gmail.com	S765432	7780000009	anmolubc
10	jaimin@gmail.com	S012120	7780000010	jaiminubc
11	jai@gmail.com	L012128	7780000011	jaiubc
12	man@gmail.com	S012129	7780000012	manubc
13	alex.smith@gmail.com	L876543	7780000013	alexsmithubc
14	jessica.jones@gmail.com	L123789	7780000014	jessicajonesubc
15	michael.chen@gmail.com	L456123	7780000015	michaelchenubc
16	laura.gibson@gmail.com	L789456	7780000016	lauragibsonubc
17	omar.farooq@gmail.com	S321654	7780000017	omarfarooqubc
18	priya.singh@gmail.com	S654987	7780000018	priyasinghubc
19	ethan.wong@gmail.com	S987321	7780000019	ethanwongubc
20	sophia.loren@gmail.com	S159753	7780000020	sophialorenubc

LISTER

	 LISTERID	 RESID	 LISTINGTYPE
1	L123456	res01	On Campus
2	L101010	res02	On Campus
3	L765432	res03	On Campus
4	L345678	res04	On Campus
5	L012120	res05	On Campus
6	L012128	res06	Off Campus
7	L876543	res07	Off Campus
8	L123789	res08	Off Campus
9	L456123	res09	Off Campus
10	L789456	res10	Off Campus

SEEKER

	 SEEKERID	 SEEKINGTYPE
1	S123456	On Campus
2	S101010	On Campus
3	S987654	On Campus
4	S765432	On Campus
5	S012120	On Campus
6	S012129	Off Campus
7	S321654	Off Campus
8	S654987	Off Campus
9	S987321	Off Campus
10	S159753	Off Campus

RES

	 RESID	 ADDRESS	 AMENITIES	 NUMBEROFROOMS	 RENT	 TYPE
1	res01	123 Main St	Pool, Gym, Parking		1	1000 On Campus
2	res02	456 Elm St	Gym, Parking		2	1200 On Campus
3	res03	789 Oak St	Pool, Parking		4	1500 On Campus
4	res04	101 Pine St	Gym		1	1300 On Campus
5	res05	202 Birch St	Parking		3	900 On Campus
6	res06	2250 Wesbrook Mall	Parking		6	1500 Off Campus
7	res07	2280 Wesbrook Mall	Basketball Court		1	1000 Off Campus
8	res08	231 Alma street	Pool		2	1200 Off Campus
9	res09	144 West 14th Ave	Gym		1	1350 Off Campus
10	res10	3525 West 10th Ave	Good Neighbourhood		4	900 Off Campus

BUILDING

	ADDRESS	BUILDINGNAME
1	123 Main St	Marine Drive
2	456 Elm St	Orchard Commons
3	789 Oak St	Totem Park
4	101 Pine St	Ponderosa
5	202 Birch St	Walter Gage
6	2250 Wesbrook Mall	Chaucer Hall1
7	2280 Wesbrook Mall	Chaucer Hall2
8	231 Alma street	Collison Woods
9	144 West 14th Ave	Private Home
10	3525 West 10th Ave	Cambridge Block

FLOORS

	BUILDINGNAME	NUMBEROFFLOORS
1	Marine Drive	10
2	Walter Gage	20
3	Ponderosa	15
4	Orchard Commons	24
5	Totem Park	12
6	Chaucer Hall1	3
7	Chaucer Hall2	2
8	Collison Woods	5
9	Private Home	1
10	Cambridge Block	10

<u>COMMAND</u>	<u>CLASS NAME</u>	<u>LINE NUMBER</u>
INSERT	DatabaseConnectionHandler	105
DELETE	DatabaseConnectionHandler	374
UPDATE	DatabaseConnectionHandler	334
SELECTION	SelectionPanel	88
PROJECTION	ProjectionPanel	53
JOIN	DatabaseConnectionHandler	447
Aggregation with Group By	DatabaseConnectionHandler	473
Aggregation with Having	DatabaseConnectionHandler	504

Nested Aggregation with Group By	DatabaseConnectionHandler	534
Division	DatabaseConnectionHandler	560-567

SCREENSHOTS

1. INSERT (There are many insertions taking place in the code, for this section we will show the insertions when a new account is created)

- Before

USERID	NAME	GENDER	BIO	AGE
1 L123456	Devin Proothi	Male	UBC, Year 3, CS.	24
2 S123456	Aryaan Habib	Male	UBC, Year 3, Forestry.	36
3 L101010	Nabeel Ali	Female	UBC, Year 3, Psychology.	34
4 S101010	Kartikeya Chaturvedi	Male	UBC, Year 4, Sauder	24
5 S987654	Aaditya Desai	Male	UBC, Year 3, English.	31
6 L765432	Sid Jain	Male	UBC, Year 6, International Relations.	24
7 L345678	Rishav	Male	UBC, Year 5, International Relations.	31
8 L012120	Aneyeant	Female	UBC, Year 1, International Relations.	31
9 S765432	Anmol	Male	UBC, Year 3, International Relations.	36
10 S012120	Jeimin	Male	UBC, Year 4, International Relations.	34
11 L012128	Jai	Female	UBC, Year 4, International Relations.	24
12 S012129	Man	Female	UBC, Year 4, International Relations.	26
13 L876543	Alex Smith	Male	UBC, Year 2, Computer Science.	20
14 L123789	Jessica Jones	Female	UBC, Year 1, Biology.	18
15 L456123	Michael Chen	Male	UBC, Year 3, Economics.	21
16 L789456	Laura Gibson	Female	UBC, Year 2, English Literature.	19
17 S321654	Omar Farooq	Male	UBC, Year 3, Political Science.	22
18 S654987	Priya Singh	Female	UBC, Year 1, Sociology.	18
19 S987321	Ethan Wong	Male	UBC, Year 2, Mathematics.	20
20 S159753	Sophia Loren	Female	UBC, Year 3, Fine Arts.	21

- During

Sign Up

Username:

L233211

Full Name:

Agastya Singh

Age:

22

Gender:

Male

Bio:

Looking for a roommate!!

User Type:

Lister

Lister Type:

On Campus

Residence:

res03 (Totem Park)

Sign Up

- After

USERID	NAME	GENDER	BIO	AGE
L123456	Devin Proothi	Male	UBC, Year 3, CS.	24
S123456	Aryaan Habib	Male	UBC, Year 3, Forestry.	36
L101010	Nabeel Ali	Female	UBC. Year 3. Psychology.	34
S101010	Kartikeya Chaturvedi	Male	UBC. Year 4. Sauder	24
S987654	Aaditya Desai	Male	UBC. Year 3. English.	31
L765432	Sid Jain	Male	UBC. Year 6. International Relations.	24
L345678	Rishav	Male	UBC. Year 5. International Relations.	31
L012120	Aneyeant	Female	UBC. Year 1. International Relations.	31
S765432	Anmol	Male	UBC. Year 3. International Relations.	36
S012120	Jaimin	Male	UBC. Year 4. International Relations.	34
L012128	Jai	Female	UBC. Year 4. International Relations.	24
S012129	Man	Female	UBC. Year 4. International Relations.	26
L876543	Alex Smith	Male	UBC. Year 2. Computer Science.	20
L123789	Jessica Jones	Female	UBC. Year 1. Biology.	18
L456123	Michael Chen	Male	UBC. Year 3. Economics.	21
L789456	Laura Gibson	Female	UBC. Year 2. English Literature.	19
S321654	Omar Farooq	Male	UBC. Year 3. Political Science.	22
S654987	Priya Singh	Female	UBC. Year 1. Sociology.	18
S987321	Ethan Wong	Male	UBC. Year 2. Mathematics.	20
S159753	Sophia Loren	Female	UBC. Year 3. Fine Arts.	21
L233211	Agastya Singh	Male	Looking for a roommate!!	22

2. DELETE

- Before

USERID	NAME	GENDER	BIO	AGE
1 L123456	Devin Proothi	Male	UBC, Year 3, CS.	24
2 S123456	Aryaan Habib	Male	UBC, Year 3, Forestry.	36
3 L101010	Nabeel Ali	Female	UBC. Year 3. Psychology.	34
4 S101010	Kartikeya Chaturvedi	Male	UBC. Year 4. Sauder	24
5 S987654	Aaditya Desai	Male	UBC. Year 3. English.	31
6 L765432	Sid Jain	Male	UBC. Year 6. International Relations.	24
7 L345678	Rishav	Male	UBC. Year 5. International Relations.	31
8 L012120	Aneyeant	Female	UBC. Year 1. International Relations.	31
9 S765432	Anmol	Male	UBC. Year 3. International Relations.	36
10 S012120	Jaimin	Male	UBC. Year 4. International Relations.	34
11 L012128	Jai	Female	UBC. Year 4. International Relations.	24
12 S012129	Man	Female	UBC. Year 4. International Relations.	26
13 L876543	Alex Smith	Male	UBC. Year 2. Computer Science.	20
14 L123789	Jessica Jones	Female	UBC. Year 1. Biology.	18
15 L456123	Michael Chen	Male	UBC. Year 3. Economics.	21
16 L789456	Laura Gibson	Female	UBC. Year 2. English Literature.	19
17 S321654	Omar Farooq	Male	UBC. Year 3. Political Science.	22
18 S654987	Priya Singh	Female	UBC. Year 1. Sociology.	18
19 S987321	Ethan Wong	Male	UBC. Year 2. Mathematics.	20
20 S159753	Sophia Loren	Female	UBC. Year 3. Fine Arts.	21

- During

Update

Delete

Selection

Projection

Join

Group By

Group By Having

Group By Nested

Division

Delete Account: This will permanently delete your account including socials, preferences, and requirements.

Delete User Account

- After(not present)

USERID	NAME	GENDER	BIO	AGE
L123456	Devin Proothi	Male	UBC, Year 3, CS.	24
S123456	Aryaan Habib	Male	UBC, Year 3, Forestry.	36
L101010	Nabeel Ali	Female	UBC, Year 3, Psychology.	34
S101010	Kartikeya Chaturvedi	Male	UBC, Year 4, Sauder	24
S987654	Aaditya Desai	Male	UBC, Year 3, English.	31
L765432	Sid Jain	Male	UBC, Year 6, International Relations.	24
L345678	Rishav	Male	UBC, Year 5, International Relations.	31
L012120	Aneyeant	Female	UBC, Year 1, International Relations.	31
S765432	Anmol	Male	UBC, Year 3, International Relations.	36
S012120	Jaimin	Male	UBC, Year 4, International Relations.	34
L012128	Jai	Female	UBC, Year 4, International Relations.	24
S012129	Man	Female	UBC, Year 4, International Relations.	26
L876543	Alex Smith	Male	UBC, Year 2, Computer Science.	20
L123789	Jessica Jones	Female	UBC, Year 1, Biology.	18
L456123	Michael Chen	Male	UBC, Year 3, Economics.	21
L789456	Laura Gibson	Female	UBC, Year 2, English Literature.	19
S321654	Omar Farooq	Male	UBC, Year 3, Political Science.	22
S654987	Priya Singh	Female	UBC, Year 1, Sociology.	18
S987321	Ethan Wong	Male	UBC, Year 2, Mathematics.	20
S159753	Sophia Loren	Female	UBC, Year 3, Fine Arts.	21

3. UPDATE

- BEFORE

	EMAILID	USERID	PHONENUMBER	INSTAGRAMUSERNAME
1	devin.proothi@gmail.com	L123456	7780000001	devinproothi
2	aryaan.habib@gmail.com	S123456	7780000002	aryaanhabib
3	nabeel.ali@gmail.com	L101010	7780000003	nabeelali
4	kartikeya.chaturvedi@gmail.com	S101010	7780000004	kartikeyachaturvedi
5	aaditya.desai@gmail.com	S987654	7780000005	aadityadesai
6	sid.jain@gmail.com	L765432	7780000006	sidjain
7	rishav.ubc@gmail.com	L345678	7780000007	rishavubc
8	aneyeant@gmail.com	L012120	7780000008	aneyeant
9	anmol.ubc@gmail.com	S765432	7780000009	anmolubc
10	jaimin@gmail.com	S012120	7780000010	jaiminubc
11	jai@gmail.com	L012128	7780000011	jaiubc
12	man@gmail.com	S012129	7780000012	manubc
13	alex.smith@gmail.com	L876543	7780000013	alexsmithubc
14	jessica.jones@gmail.com	L123789	7780000014	jessicajonesubc
15	michael.chen@gmail.com	L456123	7780000015	michaelchenubc
16	laura.gibson@gmail.com	L789456	7780000016	lauragibsonubc
17	omar.farooq@gmail.com	S321654	7780000017	omarfarooqubc
18	priya.singh@gmail.com	S654987	7780000018	priyasinghubc
19	ethan.wong@gmail.com	S987321	7780000019	ethanwongubc
20	sophia.loren@gmail.com	S159753	7780000020	sophialorenubc

- DURING

Update

Delete

Selection

Projection

Join

Group By

Group By Having

Group By Nested

Division

Update Socials

Email:

Phone Number:

Instagram Handle:

Save Changes

- AFTER

	EMAILID	USERID	PHONENUMBER	INSTAGRAMUSERNAME
1	devinproothi@yahoo.co.in	L123456	7785855555	devinproothi
2	aryaan.habib@gmail.com	S123456	7780000002	aryaanhabib
3	nabeel.ali@gmail.com	L101010	7780000003	nabeelali
4	kartikeya.chaturvedi@gmail.com	S101010	7780000004	kartikeyachaturvedi
5	aaditya.desai@gmail.com	S987654	7780000005	aadityadesai
6	sid.jain@gmail.com	L765432	7780000006	sidjain
7	rishav.ubc@gmail.com	L345678	7780000007	rishavubc
8	aneeyeant@gmail.com	L012120	7780000008	aneeyeant
9	anmol.ubc@gmail.com	S765432	7780000009	anmolubc
10	jaimin@gmail.com	S012120	7780000010	jaiminubc
11	jai@gmail.com	L012128	7780000011	jaiubc

- 4. SELECTION

- BEFORE

	RESID	ADDRESS	AMENITIES	NUMBEROFROOMS	RENT	TYPE
1	res01	123 Main St	Pool, Gym, Parking	1	1000	On Campus
2	res02	456 Elm St	Gym, Parking	2	1200	On Campus
3	res03	789 Oak St	Pool, Parking	4	1500	On Campus
4	res04	101 Pine St	Gym	1	1300	On Campus
5	res05	202 Birch St	Parking	3	900	On Campus
6	res06	2250 Wesbrook Mall	Parking	6	1500	Off Campus
7	res07	2280 Wesbrook Mall	Basketball Court	1	1000	Off Campus
8	res08	231 Alma street	Pool	2	1200	Off Campus
9	res09	144 West 14th Ave	Gym	1	1350	Off Campus
10	res10	3525 West 10th Ave	Good Neighbourhood	4	900	Off Campus

- DURING

Dashboard

Residence Table and Filters
Select filters to apply to the Residence table. You can add multiple conditions.

ResID res01 AND +

Address 123 Main St AND +

Rent 1000 AND +

Generate

Update
Delete
Selection
Projection
Join
Group By
Group By Having
Group By Nested
Division

-
- AFTER

Query Results

ResID	Address	Amenities	Number of Rooms	Rent	Type
res01	123 Main St	Pool, Gym, Parking	1	1000	On Campus

-
5. PROJECTION
- BEFORE

	USERID	NAME	GENDER	BIO	AGE
1	L123456	Devin Proothi	Male	UBC, Year 3, CS.	24
2	S123456	Aryaan Habib	Male	UBC, Year 3, Forestry.	36
3	L101010	Nabeel Ali	Female	UBC, Year 3, Psychology.	34
4	S101010	Kartikeya Chaturvedi	Male	UBC, Year 4, Sauder	24
5	S987654	Aaditya Desai	Male	UBC, Year 3, English.	31
6	L765432	Sid Jain	Male	UBC, Year 6, International Relations.	24
7	L345678	Rishav	Male	UBC, Year 5, International Relations.	31
8	L012120	Aneyeant	Female	UBC, Year 1, International Relations.	31
9	S765432	Anmol	Male	UBC, Year 3, International Relations.	36
10	S012120	Jaimin	Male	UBC, Year 4, International Relations.	34
11	L012128	Jai	Female	UBC, Year 4, International Relations.	24
12	S012129	Man	Female	UBC, Year 4, International Relations.	26
13	L876543	Alex Smith	Male	UBC, Year 2, Computer Science.	20
14	L123789	Jessica Jones	Female	UBC, Year 1, Biology.	18
15	L456123	Michael Chen	Male	UBC, Year 3, Economics.	21
16	L789456	Laura Gibson	Female	UBC, Year 2, English Literature.	19
17	S321654	Omar Farooq	Male	UBC, Year 3, Political Science.	22
18	S654987	Priya Singh	Female	UBC, Year 1, Sociology.	18
19	S987321	Ethan Wong	Male	UBC, Year 2, Mathematics.	20
20	S159753	Sophia Loren	Female	UBC, Year 3, Fine Arts.	21

- DURING

The screenshot shows a web application interface titled "Dashboard". On the left is a sidebar with several buttons: "Update", "Delete", "Selection", "Projection", "Join", "Group By", "Group By Having", "Group By Nested", and "Division". The main area of the dashboard is a "Select User Attributes" dialog box. This dialog has a list of attributes with checkboxes: "UserID" (unchecked), "Name" (checked), "Gender" (checked), "Bio" (unchecked), and "Age" (checked). Below the list is a "Generate" button.

- AFTER

Name	Gender	Age
Devin Proothi	Male	24
Aryaan Habib	Male	36
Nabeel Ali	Female	34
Kartikeya Chaturvedi	Male	24
Aaditya Desai	Male	31
Sid Jain	Male	24
Rishav	Male	31
Aneyeant	Female	31
Anmol	Male	36
Jaimin	Male	34
Jai	Female	24
Man	Female	26
Alex Smith	Male	20
Jessica Jones	Female	18
Michael Chen	Male	21
Laura Gibson	Female	19
Omar Farooq	Male	22
Priya Singh	Female	18
Ethan Wong	Male	20
Sophia Loren	Female	21
Agastya Singh	Male	22

-

6. JOIN

- BEFORE

	USERID	NAME	GENDER	BIO	AGE
1	L123456	Devin Proothi	Male	UBC, Year 3, CS.	24
2	S123456	Aryaan Habib	Male	UBC, Year 3, Forestry.	36
3	L101010	Nabeel Ali	Female	UBC, Year 3, Psychology.	34
4	S101010	Kartikeya Chaturvedi	Male	UBC, Year 4, Sauder	24
5	S987654	Aaditya Desai	Male	UBC, Year 3, English.	31
6	L765432	Sid Jain	Male	UBC, Year 6, International Relations.	24
7	L345678	Rishav	Male	UBC, Year 5, International Relations.	31
8	L012120	Aneyeant	Female	UBC, Year 1, International Relations.	31
9	S765432	Anmol	Male	UBC, Year 3, International Relations.	36
10	S012120	Jaimin	Male	UBC, Year 4, International Relations.	34
11	L012128	Jai	Female	UBC, Year 4, International Relations.	24
12	S012129	Man	Female	UBC, Year 4, International Relations.	26
13	L876543	Alex Smith	Male	UBC, Year 2, Computer Science.	20
14	L123789	Jessica Jones	Female	UBC, Year 1, Biology.	18
15	L456123	Michael Chen	Male	UBC, Year 3, Economics.	21
16	L789456	Laura Gibson	Female	UBC, Year 2, English Literature.	19
17	S321654	Omar Farooq	Male	UBC, Year 3, Political Science.	22
18	S654987	Priya Singh	Female	UBC, Year 1, Sociology.	18
19	S987321	Ethan Wong	Male	UBC, Year 2, Mathematics.	20
20	S159753	Sophia Loren	Female	UBC, Year 3, Fine Arts.	21

-

	PREFERENCESID	PREFERREDGENDER	PREFERREDAGERANGE	PREFERREDLIFESTYLE	PREFERREDLOCATION
1	L123456	Female	26-30	Active	Off Campus
2	S123456	Female	31-40	Quiet	On Campus
3	L101010	Other	18-25	Active	<null>
4	S101010	Male	31-40	Quiet	On Campus
5	S987654	Other	<null>	Active	Off Campus
6	L765432	Female	41-50	Quiet	On Campus
7	L345678	Male	18-25	Active	Off Campus
8	L012120	Other	31-40	Quiet	On Campus
9	S765432	Female	26-30	<null>	Off Campus
10	S012120	Male	41-50	Quiet	On Campus
11	L012128	Other	18-25	Active	Off Campus
12	S012129	<null>	31-40	Quiet	On Campus
13	L876543	Male	26-30	Active	Off Campus
14	L123789	Other	41-50	Quiet	On Campus
15	L456123	Female	18-25	Active	Off Campus
16	L789456	Male	31-40	Quiet	On Campus
17	S321654	Other	26-30	Active	Off Campus
18	S654987	Female	41-50	Quiet	On Campus
19	S987321	Male	18-25	Active	Off Campus
20	S159753	<null>	<null>	<null>	On Campus

	REQUIREMENTID	REQUIREDGENDER	REQUIREDAGERANGE	REQUIREDLIFESTYLE	REQUIREDLOCATION
1	L123456	Female	26-30	Active	Off Campus
2	S123456	Female	31-40	Quiet	On Campus
3	L101010	Other	18-25	Active	Off Campus
4	S101010	Male	31-40	Quiet	On Campus
5	S987654	Other	26-30	Active	Off Campus
6	L765432	Female	41-50	Quiet	On Campus
7	L345678	Male	18-25	Active	Off Campus
8	L012120	Other	31-40	Quiet	On Campus
9	S765432	Female	26-30	Active	Off Campus
10	S012120	Male	41-50	Quiet	On Campus
11	L012128	Other	18-25	Active	Off Campus
12	S012129	Female	31-40	Quiet	On Campus
13	L876543	Male	26-30	Active	Off Campus
14	L123789	<null>	41-50	Quiet	On Campus
15	L456123	Female	18-25	Active	Off Campus
16	L789456	Male	31-40	<null>	On Campus
17	S321654	Other	26-30	Active	Off Campus
18	S654987	Female	41-50	Quiet	<null>
19	S987321	Male	18-25	Active	Off Campus
20	S159753	<null>	31-40	<null>	<null>

DURING

Update

Delete

Selection

Projection

Join

Group By

Group By Having

Group By Nested

Division

Dashboard

Join Users, Preferences, Requirements

Join the Users, Preferences and Requirements Tables to view users' preferences and requirements.

User:

UserID

PreferencesID

RequirementsID

Generate

AFTER

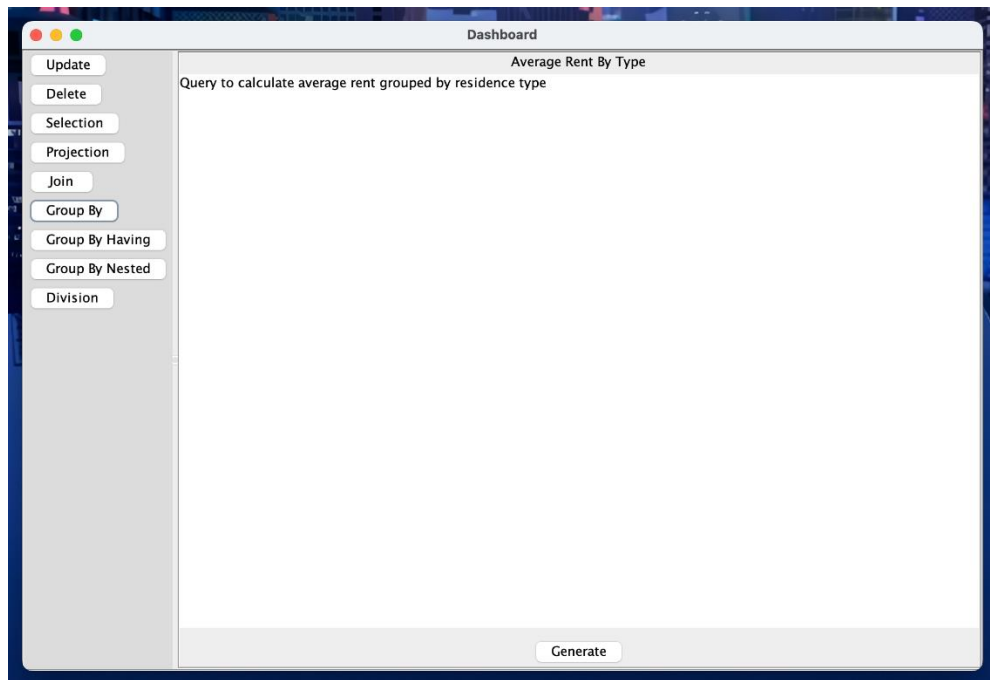
UserID	Name	Gender	Bio	Age	Preferen...	Preferred...	Preferred...	Preferre...	Preferred...	Require...	Required...	Required...	Required...	Required...
L123456	Devin Pr...	Male	UBC, Ye...	24	L123456	Female	26-30	Active	Off Cam...	L123456	Female	26-30	Active	Off Cam...
S123456	Aryaan ...	Male	UBC, Ye...	36	S123456	Female	31-40	Quiet	On Cam...	S123456	Female	31-40	Quiet	On Cam...
L101010	Nabeel Ali	Female	UBC, Ye...	34	L101010	Other	18-25	Active	On Cam...	L101010	Other	18-25	Active	Off Cam...
S101010	Kartikey...	Male	UBC, Ye...	24	S101010	Male	31-40	Quiet	On Cam...	S101010	Male	31-40	Quiet	On Cam...
S987654	Aaditya ...	Male	UBC, Ye...	31	S987654	Other	18-25	Active	Off Cam...	S987654	Other	26-30	Active	Off Cam...
L765432	Sid Jain	Male	UBC, Ye...	24	L765432	Female	41-50	Quiet	On Cam...	L765432	Female	41-50	Quiet	On Cam...
L345678	Rishav	Male	UBC, Ye...	31	L345678	Male	18-25	Active	Off Cam...	L345678	Male	18-25	Active	Off Cam...
L012120	Aneyeant	Female	UBC, Ye...	31	L012120	Other	31-40	Quiet	On Cam...	L012120	Other	31-40	Quiet	On Cam...
S765432	Anmol	Male	UBC, Ye...	36	S765432	Female	26-30	Active	Off Cam...	S765432	Female	26-30	Active	Off Cam...
S012120	Jaimin	Male	UBC, Ye...	34	S012120	Male	41-50	Quiet	On Cam...	S012120	Male	41-50	Quiet	On Cam...
L012128	Jai	Female	UBC, Ye...	24	L012128	Other	18-25	Active	Off Cam...	L012128	Other	18-25	Active	Off Cam...
S012129	Man	Female	UBC, Ye...	26	S012129	Female	31-40	Quiet	On Cam...	S012129	Female	31-40	Quiet	On Cam...
L876543	Alex Smith	Male	UBC, Ye...	20	L876543	Male	26-30	Active	Off Cam...	L876543	Male	26-30	Active	Off Cam...
L123789	Jessica J...	Female	UBC, Ye...	18	L123789	Other	41-50	Quiet	On Cam...	L123789	Other	41-50	Quiet	On Cam...
L456123	Michael ...	Male	UBC, Ye...	21	L456123	Female	18-25	Active	Off Cam...	L456123	Female	18-25	Active	Off Cam...
L789456	Laura Gl...	Female	UBC, Ye...	19	L789456	Male	31-40	Quiet	On Cam...	L789456	Male	31-40	Quiet	On Cam...
S321654	Omar Fa...	Male	UBC, Ye...	22	S321654	Other	26-30	Active	Off Cam...	S321654	Other	26-30	Active	Off Cam...
S654987	Priya Singh	Female	UBC, Ye...	18	S654987	Female	41-50	Quiet	On Cam...	S654987	Female	41-50	Quiet	On Cam...
S987321	Ethan W...	Male	UBC, Ye...	20	S987321	Male	18-25	Active	Off Cam...	S987321	Male	18-25	Active	Off Cam...
S159753	Sophia L...	Female	UBC, Ye...	21	S159753				On Cam...	S159753		31-40		
L233211	Agastya ...	Male	Looking ...	22	L233211					L233211	Other	26-30		Off Cam...

7. AGGREGATION (1)

BEFORE

	RESID	ADDRESS	AMENITIES	NUMBEROFROOMS	RENT	TYPE
1	res01	123 Main St	Pool, Gym, Parking		1000	On Campus
2	res02	456 Elm St	Gym, Parking		1200	On Campus
3	res03	789 Oak St	Pool, Parking		1500	On Campus
4	res04	101 Pine St	Gym		1300	On Campus
5	res05	202 Birch St	Parking		900	On Campus
6	res06	2250 Westbrook Mall	Parking		1500	Off Campus
7	res07	2280 Westbrook Mall	Basketball Court		1000	Off Campus
8	res08	231 Alma street	Pool		1200	Off Campus
9	res09	144 West 14th Ave	Gym		1350	Off Campus
10	res10	3525 West 10th Ave	Good Neighbourhood		900	Off Campus

DURING



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- AFTER

Type	Average Rent
Off Campus	1190
On Campus	1180

-

8. AGGREGATION (2)

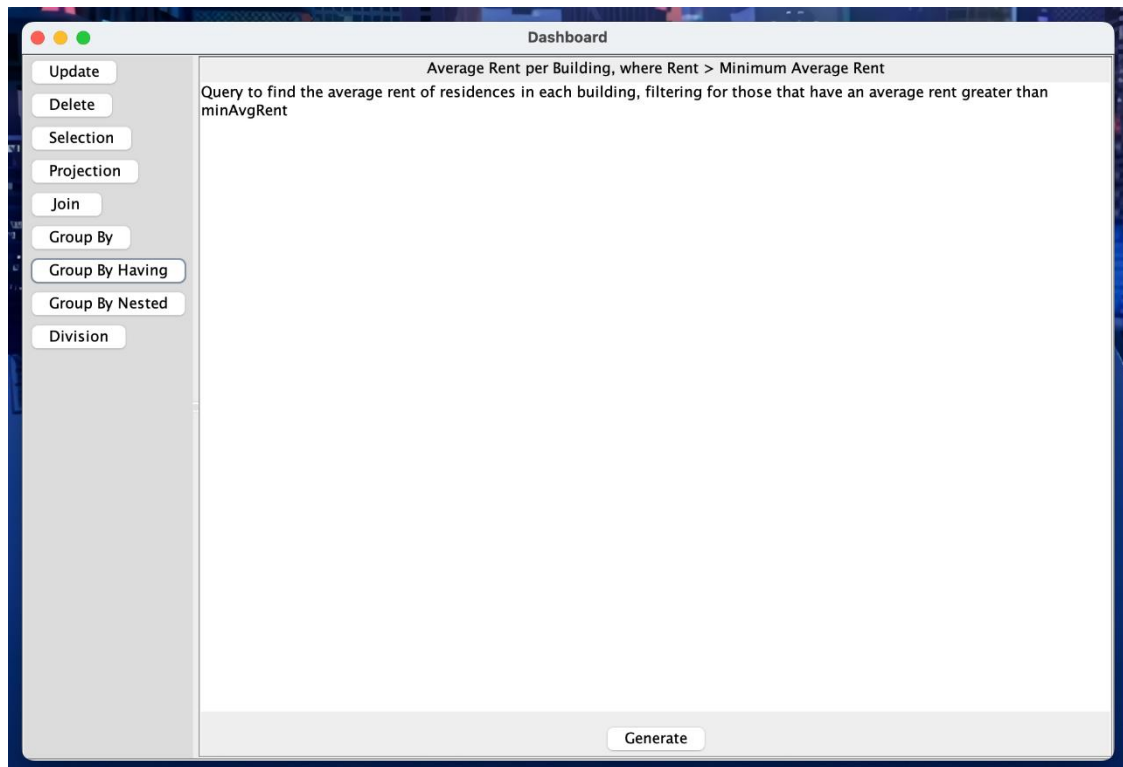
- BEFORE

	RESID	ADDRESS	AMENITIES	NUMBEROFROOMS	RENT	TYPE
1	res01	123 Main St	Pool, Gym, Parking	1	1000	On Campus
2	res02	456 Elm St	Gym, Parking	2	1200	On Campus
3	res03	789 Oak St	Pool, Parking	4	1500	On Campus
4	res04	101 Pine St	Gym	1	1300	On Campus
5	res05	202 Birch St	Parking	3	900	On Campus
6	res06	2250 Wesbrook Mall	Parking	6	1500	Off Campus
7	res07	2280 Wesbrook Mall	Basketball Court	1	1000	Off Campus
8	res08	231 Alma street	Pool	2	1200	Off Campus
9	res09	144 West 14th Ave	Gym	1	1350	Off Campus
10	res10	3525 West 10th Ave	Good Neighbourhood	4	900	Off Campus

	ADDRESS	BUILDINGNAME
1	123 Main St	Marine Drive
2	456 Elm St	Orchard Commons
3	789 Oak St	Totem Park
4	101 Pine St	Ponderosa
5	202 Birch St	Walter Gage
6	2250 Wesbrook Mall	Chaucer Hall1
7	2280 Wesbrook Mall	Chaucer Hall2
8	231 Alma street	Collison Woods
9	144 West 14th Ave	Private Home
10	3525 West 10th Ave	Cambridge Block

	BUILDINGNAME	NUMBEROFFLOORS
1	Marine Drive	10
2	Walter Gage	20
3	Ponderosa	15
4	Orchard Commons	24
5	Totem Park	12
6	Chaucer Hall1	3
7	Chaucer Hall2	2
8	Collison Woods	5
9	Private Home	1
10	Cambridge Block	10

- DURING



-

- AFTER

Query Results

Building Name	Average Rent
Collison Woods	1200
Orchard Commons	1200
Ponderosa	1300
Chaucer Hall1	1500
Private Home	1350
Totem Park	1500

-

9. AGGREGATION (3)

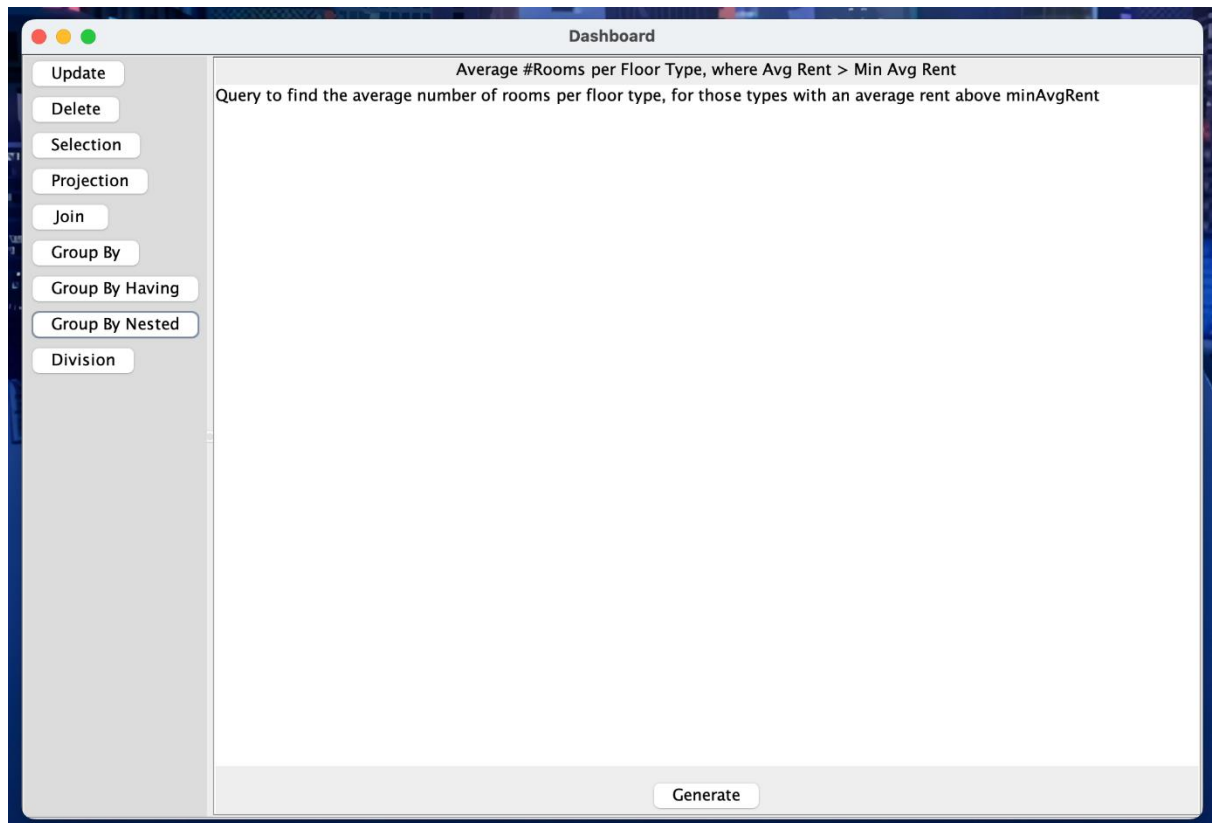
- BEFORE

	RESID	ADDRESS	AMENITIES	NUMBEROFROOMS	RENT	TYPE
1	res01	123 Main St	Pool, Gym, Parking	1	1000	On Campus
2	res02	456 Elm St	Gym, Parking	2	1200	On Campus
3	res03	789 Oak St	Pool, Parking	4	1500	On Campus
4	res04	101 Pine St	Gym	1	1300	On Campus
5	res05	202 Birch St	Parking	3	900	On Campus
6	res06	2250 Wesbrook Mall	Parking	6	1500	Off Campus
7	res07	2280 Wesbrook Mall	Basketball Court	1	1000	Off Campus
8	res08	231 Alma street	Pool	2	1200	Off Campus
9	res09	144 West 14th Ave	Gym	1	1350	Off Campus
10	res10	3525 West 10th Ave	Good Neighbourhood	4	900	Off Campus

	ADDRESS	BUILDINGNAME
1	123 Main St	Marine Drive
2	456 Elm St	Orchard Commons
3	789 Oak St	Totem Park
4	101 Pine St	Ponderosa
5	202 Birch St	Walter Gage
6	2250 Wesbrook Mall	Chaucer Hall1
7	2280 Wesbrook Mall	Chaucer Hall2
8	231 Alma street	Collison Woods
9	144 West 14th Ave	Private Home
10	3525 West 10th Ave	Cambridge Block

	BUILDINGNAME	NUMBEROFFLOORS
1	Marine Drive	10
2	Walter Gage	20
3	Ponderosa	15
4	Orchard Commons	24
5	Totem Park	12
6	Chaucer Hall1	3
7	Chaucer Hall2	2
8	Collison Woods	5
9	Private Home	1
10	Cambridge Block	10

- DURING



-
- AFTER

Query Results

Building Name	Average Number of Rooms
Chaucer Hall1	6
Totem Park	4

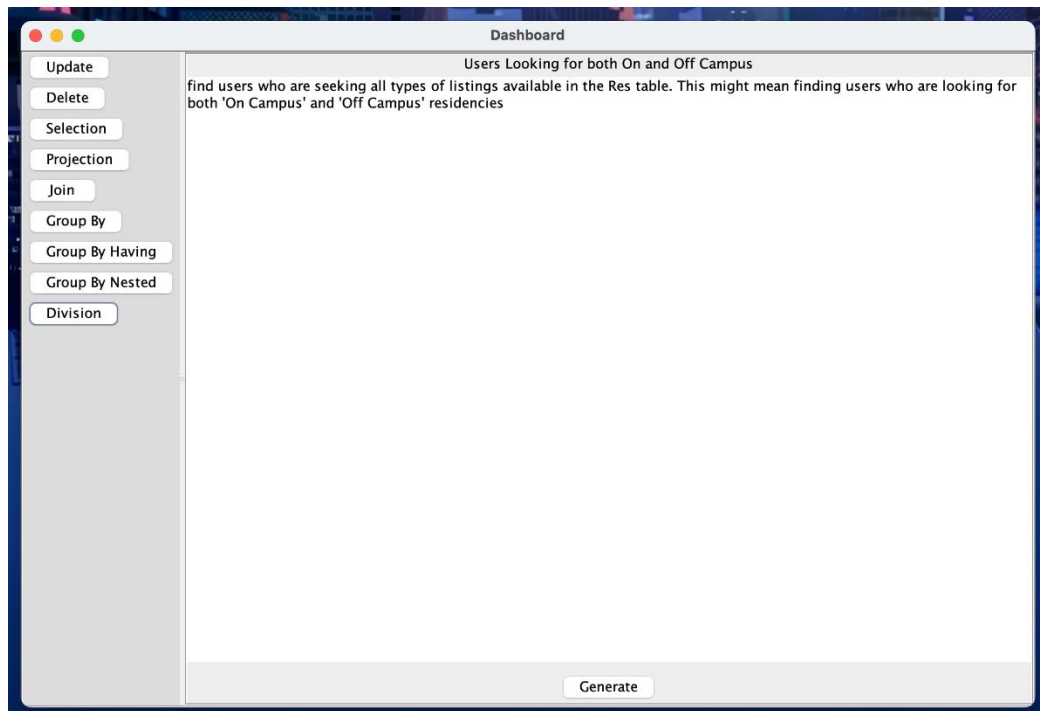
-
10. Division
- BEFORE

	RESID	ADDRESS	AMENITIES	NUMBEROFROOMS	RENT	TYPE
1	res01	123 Main St	Pool, Gym, Parking	1	1000	On Campus
2	res02	456 Elm St	Gym, Parking	2	1200	On Campus
3	res03	789 Oak St	Pool, Parking	4	1500	On Campus
4	res04	101 Pine St	Gym	1	1300	On Campus
5	res05	202 Birch St	Parking	3	900	On Campus
6	res06	2250 Wesbrook Mall	Parking	6	1500	Off Campus
7	res07	2280 Wesbrook Mall	Basketball Court	1	1000	Off Campus
8	res08	231 Alma street	Pool	2	1200	Off Campus
9	res09	144 West 14th Ave	Gym	1	1350	Off Campus
10	res10	3525 West 10th Ave	Good Neighbourhood	4	900	Off Campus

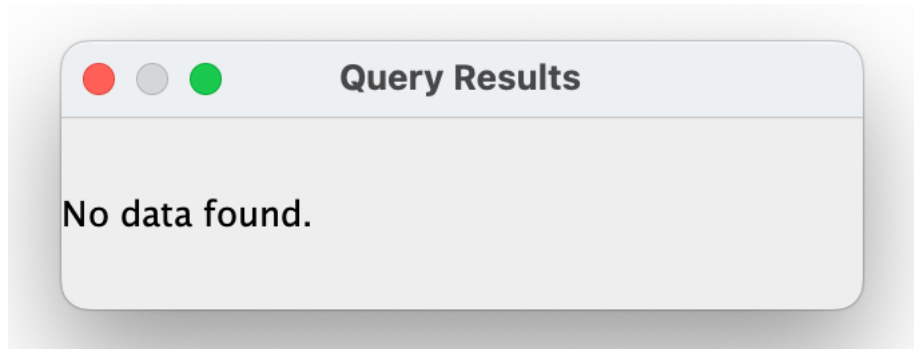
	ADDRESS	BUILDINGNAME
1	123 Main St	Marine Drive
2	456 Elm St	Orchard Commons
3	789 Oak St	Totem Park
4	101 Pine St	Ponderosa
5	202 Birch St	Walter Gage
6	2250 Wesbrook Mall	Chaucer Hall1
7	2280 Wesbrook Mall	Chaucer Hall2
8	231 Alma street	Collison Woods
9	144 West 14th Ave	Private Home
10	3525 West 10th Ave	Cambridge Block

	BUILDINGNAME	NUMBEROFFLOORS
1	Marine Drive	10
2	Walter Gage	20
3	Ponderosa	15
4	Orchard Commons	24
5	Totem Park	12
6	Chaucer Hall1	3
7	Chaucer Hall2	2
8	Collison Woods	5
9	Private Home	1
10	Cambridge Block	10

- DURING



-
- AFTER (our database is not big enough to give a result for this query)



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