1. A short description of the final project, and what it accomplished.

We created an astrological social media platform database. It allows someone like a database administrator control over user-related entities, such as posts, comments, followers, and events. Admins can manage the database by inserting, deleting, and updating tuples, allowing for dynamic and responsive platform maintenance. We implemented features such as: the ability to find users based on star signs, find which users have attended every event, group users by birth year, and identify popular event locations. This is only a demo of what a full database admin suite could accomplish.

2. A description of how your final schema differed from the schema you turned in.

- If the final schema differed, explain why. Note that turning in a final schema that's different from what you planned is fine, we just want to know what changed and why.
- We changed any CLOB type to VARCHAR(255) to simplify things when it came to directly converting between types in Java (Strings) to types in Oracle.
- We added DateTime to attends as it's needed as a foreign key to identify Event
- Removed any ON DELETE SET DEFAULT or SET UPDATE CASCADE as these operations are not supported by Oracle
- Added ON DELETE CASCADE to the adminld foreign key in HelpTickets as we realized it made more sense in the context of removing an Admin
- We changed all CHAR(36) to VARCHAR(36) for ease with Java Strings

3. A copy of the schema and screenshots that show what data is present in each relation after the SQL script from item #2 is run.

- Do not use DDL statements for this deliverable. List the relational schemas with the primary key attributes underlined and foreign keys bolded. For example, Student(sid, name, dob).
- You can complete this deliverable with screenshots from SQL Plus or create a representation of your relational instances through a spreadsheet program. No matter what you use, be sure to clearly label which relation a given instance refers to.

Users(userName, biography, firstName, birthDay, birthMonth, birthYear)

	□ USERNAME ÷	☐ BIOGRAPHY ÷	∏ FIRSTNAME ÷	∏ BIRTHDAY ≎	☐ BIRTHMONTH ÷	BIRTHYEAR
1	dman	Cool Bio Alert	Daven	12	January	2003
2	304ta	im a cool TA!	Joe	10	November	2003
3	sevaman	Worlds Best Prof	Seva	8	September	1990
4	olti123	the best group member	Olti	9	August	2003
5	rickybangbang	elite engineer	Ricky	7	April	2003
6	rickyaa	elite	Rickyaaaa	7	April	2004
7	jamesss	isa	jamesor	7	April	1990

StarSigns(<u>birthDay</u>, <u>birthMonth</u>, starSign)

	ৣ BIRTHDAY ≎	□ BIRTHMONTH ÷	□ STARSIGN
1	12	January	Capricorn
2	10	November	Scorpio
3	9	August	Leo
4	8	September	Virgo
5	7	April	Aries

${\sf Follows}(\underline{\textit{userName}}, \underline{\textit{followsUserName}})$

	₩ USERNAME ÷	ূন্ন FOLLOWSUSERNAME \$
1	304ta	sevaman
2	dman	rickybangbang
3	olti123	sevaman
4	rickybangbang	sevaman
5	sevaman	olti123

$Attends(\underline{\textit{userName}},\,\underline{\textit{eventName}})$

	, <u></u>		
	ূচ্চি USERNAME \$	ূর EVENTNAME \$	জ়ু DATETIME ÷
1	304ta	Minecraft Thanksgiving Event	2024-10-09 12:00:00.000000
2	dman	Cardio Hating Party	2024-03-01 14:00:00.000000
3	dman	Cardio Loving Party	2023-06-20 11:00:00.000000
4	dman	Christmas Stock Celebration	2024-12-25 11:00:00.000000
5	dman	Minecraft Thanksgiving Event	2024-10-09 12:00:00.000000
6	dman	Pull Day	2023-06-19 10:00:00.000000
7	dman	Push Day	2023-06-19 10:00:00.000000
8	dman	SFU Party	2023-06-21 11:00:00.000000
9	dman	SQL Party	2024-01-31 13:00:00.000000
10	dman	Workout Day	2024-10-31 10:00:00.000000
11	olti123	Workout Day	2024-10-31 10:00:00.000000
12	rickybangbang	Cardio Hating Party	2024-03-01 14:00:00.000000
13	rickybangbang	Cardio Loving Party	2023-06-20 11:00:00.000000
14	rickybangbang	Christmas Stock Celebration	2024-12-25 11:00:00.000000
15	rickybangbang	Minecraft Thanksgiving Event	2024-10-09 12:00:00.000000
16	rickybangbang	Pull Day	2023-06-19 10:00:00.000000
17	rickybangbang	Push Day	2023-06-19 10:00:00.000000
18	rickybangbang	SFU Party	2023-06-21 11:00:00.000000
19	rickybangbang	SQL Party	2024-01-31 13:00:00.000000
20	rickybangbang	Workout Day	2024-10-31 10:00:00.000000
21	sevaman	SQL Party	2024-01-31 13:00:00.000000

MemberOf(*userName*, *communityName*)

	្រុទ្ទ USERNAME	‡	ূন্ন COMMUNITYNAME	
1	304ta		Minecraft	
2	olti123		Gym	
3	rickybangbang		Gym	
4	rickybangbang		Party	
5	rickybangbang		Stocks	
6	sevaman		Databases	

Posts(postId, title, userName, communityName, dateTime)

	₽0STID ÷	□ TITLE ÷	□ USERNAME ÷	COMMUNITYNAME ÷	□ DATETIME
1	1	Hello World	sevaman	Databases	2023-10-20 23:59:59.000000
2	2	Investing is Awesome!	rickybangbang	Stocks	2023-08-01 10:30:12.000000
3	3	How to get strong	olti123	Gym	2023-11-01 14:21:00.000000
4	4	Minecraft Lets Play	304ta	Minecraft	2023-10-08 03:00:00.000000
5	5	How to get rich	rickybangbang	Gym	2023-12-31 22:05:24.000000
6	6	Databases 101	sevaman	Databases	2023-10-02 20:49:12.000000
7	7	Stocks for dummies	rickybangbang	Stocks	2023-05-01 14:30:20.000000
8	8	What is the gym	olti123	Gym	2023-09-20 07:01:12.000000
9	9	What is your favourite mob	304ta	Minecraft	2023-11-10 05:21:28.000000
10	10	Working out at the gym for 24 hours challe…	rickybangbang	Gym	2022-01-01 21:00:21.000000
11	11	CPSC 304 Is The Best	sevaman	Databases	2023-04-02 21:30:21.000000
12	12	S AND P 500 Is Up!	rickybangbang	Stocks	2023-08-01 10:31:12.000000
13	13	Bicep Curls are for babies	olti123	Gym	2023-09-02 08:32:40.000000
14	14	My fav block review	304ta	Minecraft	2022-08-08 08:08:08.000000
15	15	My legs are sore	rickybangbang	Gym	2023-11-30 21:08:01.000000

Image(postld, caption)



Textpost(postld, text)

	POSTID ÷	© TEXT	‡
1	3	Here is a step by step guide on how to get strong. Step 1. Get strong!	
2	7	For all you dummies out there, listen up	
3	8	Today I am gonna talk about what is the gym.	
4	12	Check the market! Invest now!	
5	13	If you do bicep curls ur the worst!	

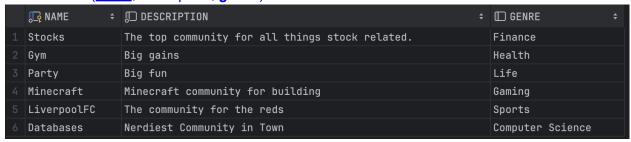
Video(postId, caption, duration)

	POSTID ÷	☐ CAPTION ÷	∏ DURATION ≎
1	4	Welcome back to my Minecraft video!	120
2	5	Get rich with these quick tips!	30
3	6	Watch to learn all about SQL!	200
4	10	I almost fainted!	600
5	14	Number one will surprise you!	1200

StorageSizes(<u>duration</u>, size)

	ৣ DURATION ≎	<pre> □ SIZE_TYPE</pre>
1	120	Medium
2	30	Small
3	200	Medium
4	600	Large
5	1200	Large

Communities(<u>name</u>, description, **genre**)



Genres(genre, capacity, ageRange)

	□ GENRE	‡	☐ CAPACITY ÷	□ AGERANGE
1	Sports		1000	12-30
2	Health		200	19-60
3	Gaming		200	11-19
4	Finance		200	20-45
5	Tech		200	19-30

Events(<u>eventName</u>, <u>dateTime</u>, location, **communityName**)

	☐ EVENTNAME \$	□ DATETIME		
1	Workout Day	2024-10-31 10:00:00.000000	UBC	Gym
2	Christmas Stock Celebration	2024-12-25 11:00:00.000000	UBC	Stocks
3	Minecraft Thanksgiving Event	2024-10-09 12:00:00.000000	UBC	Minecraft
4	SQL Party	2024-01-31 13:00:00.000000	UBC	Databases
5	Cardio Hating Party	2024-03-01 14:00:00.000000	UBC	Gym

Help Tickets(<u>ticketId</u>, description, type, **userName**, **adminId**)

	∰ TICKET ÷	<pre> DESCRIPTION</pre>	∏ TYPE	∏ USERNAME ÷	☐ ADMINID ÷
1	1	Spammed Craft	Spam	dman	1
2	2	Harassed	Harass	olti123	1
3	3	Racist Post	Racism	sevaman	1
4	4	Broke a Comment	Bug	sevaman	1
5	5	Was rude	Rude	dman	1
6	6	Roasted CPSC	Rude	olti123	2
7	7	Cried in Public	Crying	rickybangbang	3
8	8	Hacked the Mainframe	Hacking	sevaman	4
9	9	Exploited SQL Injection	Bug	rickybangbang	2
10	10	Broke his Computer	Broke	olti123	5

Admins(<u>adminID</u>, name, experienceLevel)

	₽ ADMINID ÷	☐ NAME	□ EXPERIENCELEVEL
1	1	james	King
2	2	elizabeth	Queen
3	3	andjill	Jack
4	4	littlemonkeys	Ten
5	5	tails	Nine

Comments(commentId, text, userName, postId, dateTime)

	© COMMENTID ÷	□ USERNAME ÷	POSTID ÷	□ TEXT	□ DATETIME	\$
1	1	olti123	1	Daven is smart	2024-12-24 22:05:24.000000	
2	2	rickybangbang	1	Daven is not smart	2024-12-25 22:05:25.000000	
3	3	olti123	1	Daven is not smart	2024-12-26 22:05:26.000000	
4	4	sevaman	1	Daven is very smart	2024-12-27 22:05:27.000000	
5	5	olti123	1	Daven is not so smart	2024-12-28 22:05:28.000000	

Awards(<u>type</u>, <u>postId</u>, cost)

	TYPE	‡	ু POSTID	‡	□ cost ÷
1	Gold		1		1000
2	Silver		1		500
3	Gold		2		1000
4	Gold		3		1000
5	Platinum		4		5000

4. A list of all SQL queries used and where it can be found in the code (i.e., file name and line number(s)). For SQL query requirements, check the rubric listed on Canvas for Milestone 4.

INSERT Operation: in <u>database.DatabaseConnectionHandler.java line 163</u> within <u>insertTuple()</u> <u>at line 119. insertTuple()</u> is called from <u>ui.UI.java in insertUser()</u> at line 453 and 458

DELETE Operation: in <u>database.DatabaseConnectionHandler.java line 217</u> within <u>deleteTuple()</u> at line 180. <u>deleteTuple()</u> is called from <u>ui.Ul.java</u> in testDelete() on line 481

UPDATE Operation: in <u>database.DatabaseConnectionHandler.java line 400</u> within <u>updateTuple()</u> at line 323. <u>updateTuple()</u> is called from <u>ui.UI.java in updateUser()</u> at line 443

Selection: in <u>database.DatabaseConnectionHandler.java line 302,</u> within <u>selectTuple() at line 238. selectTuple()</u> is called from <u>ui.UI.java in selectAll() at line 617</u>

Projection: in <u>database.DatabaseConnectionHandler.java line 442,</u> within <u>projectionTuple() at line 425. projectionTuple()</u> is called from <u>ui.UI.java in testProjection() at line 632</u>

Join: in <u>database.DatabaseConnectionHandler.java line 528,</u> within <u>joinTuple() at line 463.</u> <u>joinTuple()</u> is called from <u>ui.UI.java in testJoin() at line 467.</u>

Aggregation with Group By: in <u>database.DatabaseConnectionHandler.java line 599</u>, within <u>groupByTuple()</u> at line 582, <u>groupByTuple()</u> is called from <u>ui.UI.java in testGroupBy()</u> at line 571

Aggregation with Having: in <u>database.DatabaseConnectionHandler.java line 561</u>, within <u>havingTuple()</u> at line 542, <u>havingTuple()</u> is called from <u>ui.UI.java in testHaving()</u> at line 557

Nested Aggregation with Group By: in <u>database.DatabaseConnectionHandler.java line 599, within groupByTuple()</u> at line 582, <u>groupByTuple()</u> is called from <u>ui.UI.java in testNestedGroupBy()</u> at line 586

Division: in <u>database.DatabaseConnectionHandler.java line 657, within divisionTuple() at line 638, divisionTuple() is called from ui.UI.java in testDivision() at line 602</u>

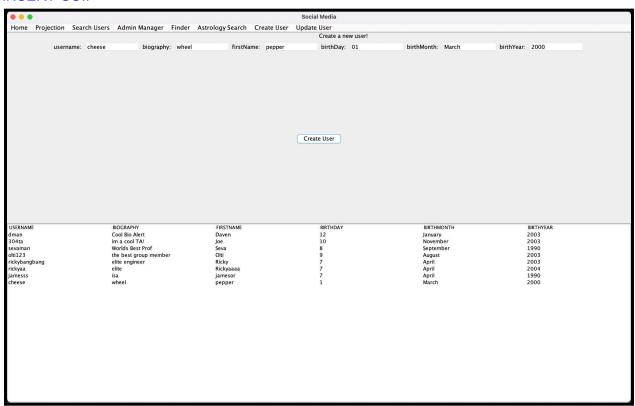
- 5. Screenshots demonstrating the functionality of each query using the GUI. We want to see a before/during/after progression of events. For example, the before screenshot would be what data is in the table before you run the query, the during screenshot(s) is how the query is triggered using the GUI, and the after screenshot is what data is in your table afterwards. Please label each set of screenshots with the name of the query it is meant to address (e.g., "Insert Operation").
 - You need only to include screenshots for the required queries if you implemented more than what was required, screenshots are not needed for those extra queries.

INSERT Operation:

INSERT before:

	□ USERNAME ÷	□ BIOGRAPHY	☐ FIRSTNAME ÷	ৣ BIRTHDAY ‡	☐ BIRTHMONTH ÷	BIRTHYEAR
1	dman	Cool Bio Alert	Daven	12	January	2003
2	304ta	im a cool TA!	Joe	10	November	2003
3	sevaman	Worlds Best Prof	Seva	8	September	1990
4	olti123	the best group member	Olti	9	August	2003
5	rickybangbang	elite engineer	Ricky	7	April	2003
6	rickyaa	elite	Rickyaaaa	7	April	2004
7	jamesss	isa	jamesor	7	April	1990

INSERT GUI:



INSERT after:

	□ USERNAME ÷	☐ BIOGRAPHY ÷	☐ FIRSTNAME ÷	<u> </u>	∏ BIRTHMONTH ÷	BIRTHYEAR
1	dman	Cool Bio Alert	Daven	12	January	2003
2	304ta	im a cool TA!	Joe	10	November	2003
3	sevaman	Worlds Best Prof	Seva	8	September	1990
4	olti123	the best group member	Olti	9	August	2003
5	rickybangbang	elite engineer	Ricky	7	April	2003
6	rickyaa	elite	Rickyaaaa	7	April	2004
7	jamesss	isa	jamesor	7	April	1990
8	cheese	wheel	pepper	1	March	2000

DELETE Operation:

DELETE before:

	∏ ADMINID ÷	☐ NAME	□ EXPERIENCELEVEL
1	1	james	King
2	2	elizabeth	Queen
3	3	andjill	Jack
4	4	littlemonkeys	Ten
5	5	tails	Nine

	<u></u> TICKET \$	□ DESCRIPTION ÷	☐ TYPE ‡	□ USERNAME ÷	☐ ADMINID ÷
1	1	Spammed Craft	Spam	dman	1
2	2	Harassed	Harass	olti123	1
3	3	Racist Post	Racism	sevaman	1
4	4	Broke a Comment	Bug	sevaman	1
5	5	Was rude	Rude	dman	1
6	6	Roasted CPSC	Rude	olti123	2
7	7	Cried in Public	Crying	rickybangbang	3
8	8	Hacked the Mainframe	Hacking	sevaman	4
9	9	Exploited SQL Injection	Bug	rickybangbang	2
10	10	Broke his Computer	Broke	olti123	5

DELETE GUI:



DELETE after:

	ADMINID ÷	☐ NAME	□ EXPERIENCELEVEL
1	1	james	King
2	3	andjill	Jack
3	4	littlemonkeys	Ten
4	5	tails	Nine

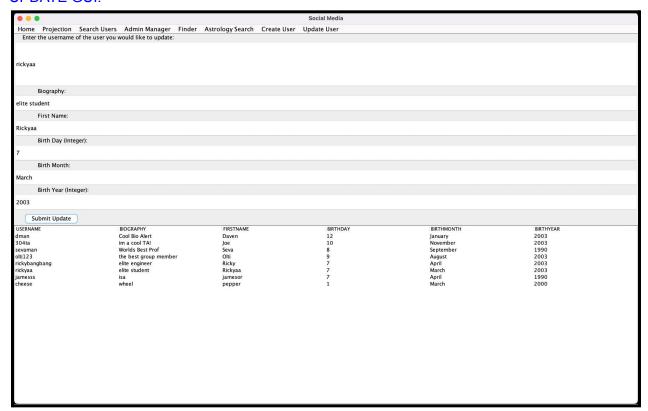
	₩ TICKET ÷	<pre> □ DESCRIPTION ÷ </pre>	☐ TYPE ‡	<pre> □ USERNAME</pre>	ADMINID ÷
1	1	Spammed Craft	Spam	dman	1
2	2	Harassed	Harass	olti123	1
3	3	Racist Post	Racism	sevaman	1
4	4	Broke a Comment	Bug	sevaman	1
5	5	Was rude	Rude	dman	1
6	7	Cried in Public	Crying	rickybangbang	3
7	8	Hacked the Mainframe	Hacking	sevaman	4
8	10	Broke his Computer	Broke	olti123	5

UPDATE Operation:

UPDATE before:

	□ USERNAME ÷	□ BIOGRAPHY	□ FIRSTNAME	ৣ BIRTHDAY ‡	☐ BIRTHMONTH ÷	∏ BIRTHYEAR ≎
1	dman	Cool Bio Alert	Daven	12	January	2003
2	304ta	im a cool TA!	Joe	10	November	2003
3	sevaman	Worlds Best Prof	Seva	8	September	1990
4	olti123	the best group member	Olti	9	August	2003
5	rickybangbang	elite engineer	Ricky	7	April	2003
6	rickyaa	elite	Rickyaaaa	7	April	2004
7	jamesss	isa	jamesor	7	April	1990

UPDATE GUI:



UPDATE after:

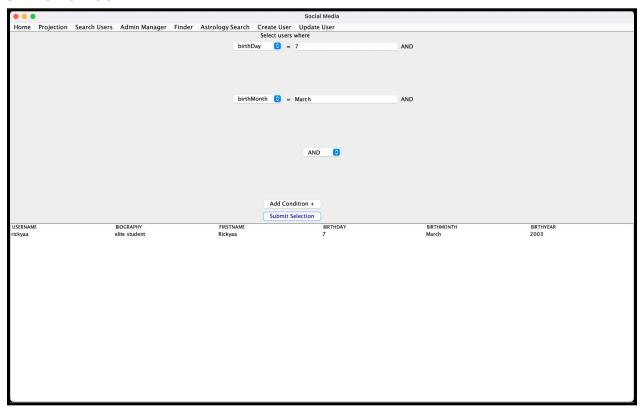
	∏ USERNAME ÷	☐ BIOGRAPHY ÷	☐ FIRSTNAME ÷	∏ BIRTHDAY ÷	<u>□</u> BIRTHMONTH ÷	BIRTHYEAR
1	dman	Cool Bio Alert	Daven	12	January	2003
2	304ta	im a cool TA!	Joe	10	November	2003
3	sevaman	Worlds Best Prof	Seva	8	September	1990
4	olti123	the best group member	Olti	9	August	2003
5	rickybangbang	elite engineer	Ricky	7	April	2003
6	rickyaa	elite student	Rickyaa	7	March	2003
7	jamesss	isa	jamesor	7	April	1990
8	cheese	wheel	pepper	1	March	2000

Selection:

SELECTION before:

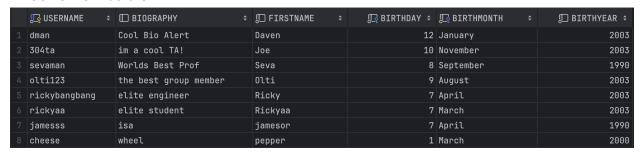
	্রে TICKET ÷	□ DESCRIPTION ÷	∏ TYPE ÷	☐ USERNAME ÷	☐ ADMINID ÷
1	1	Spammed Craft	Spam	dman	1
2	2	Harassed	Harass	olti123	1
3	3	Racist Post	Racism	sevaman	1
4	4	Broke a Comment	Bug	sevaman	1
5	5	Was rude	Rude	dman	1
6	6	Roasted CPSC	Rude	olti123	2
7	7	Cried in Public	Crying	rickybangbang	3
8	8	Hacked the Mainframe	Hacking	sevaman	4
9	9	Exploited SQL Injection	Bug	rickybangbang	2
10	10	Broke his Computer	Broke	olti123	5

SELECTION GUI:



Projection:

PROJECTION before:



PROJECTION GUI:



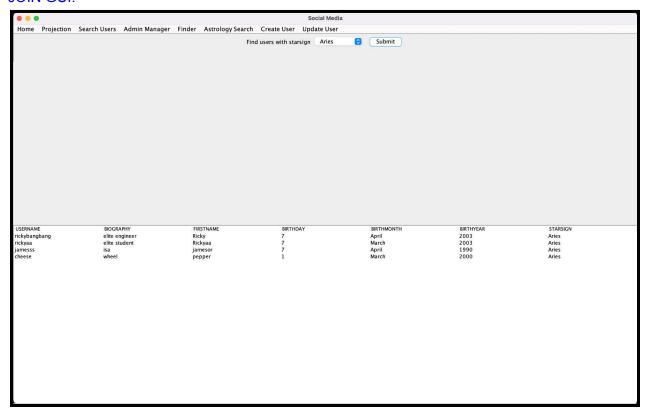
Join:

JOIN before:

	□ USERNAME ÷	☐ BIOGRAPHY ÷	□ FIRSTNAME	∏ BIRTHDAY ≎	☐ BIRTHMONTH ÷	☐ BIRTHYEAR ÷
1	dman	Cool Bio Alert	Daven	12	January	2003
2	304ta	im a cool TA!	Joe	10	November	2003
3	sevaman	Worlds Best Prof	Seva	8	September	1990
4	olti123	the best group member	Olti	9	August	2003
5	rickybangbang	elite engineer	Ricky	7	April	2003
6	rickyaa	elite student	Rickyaa	7	March	2003
7	jamesss	isa	jamesor	7	April	1990
8	cheese	wheel	pepper	1	March	2000

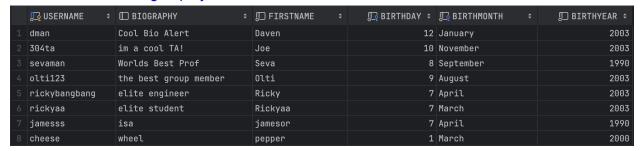


JOIN GUI:

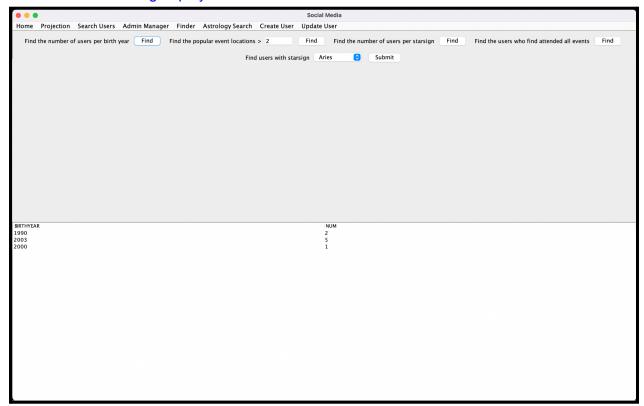


Aggregation with Group By:

AGGREGATION with group by before:

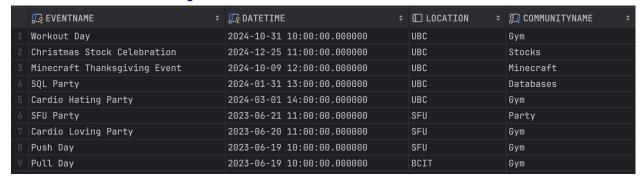


AGGREGATION with group by GUI:

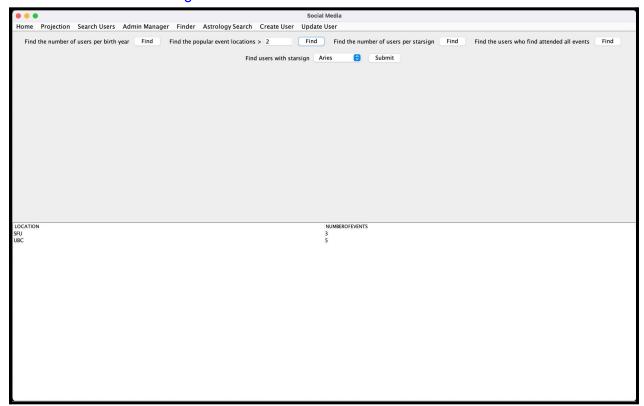


Aggregation with Having:

AGGREGATION with having before:



AGGREGATION with having GUI:



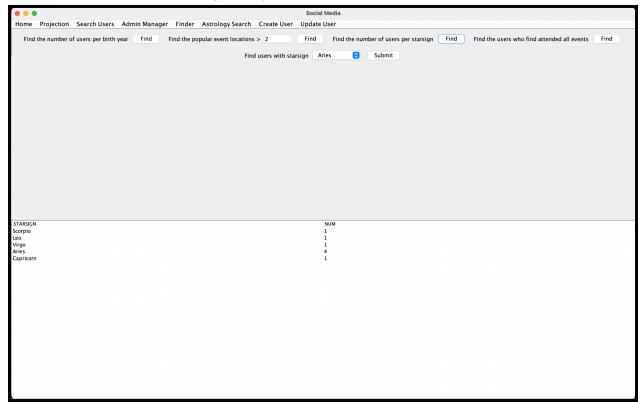
Nested Aggregation with Group By:

NESTED AGGREGATION with group by before:





NESTED AGGREGATION with group by GUI:



Division:

DIVISION before:

	☐ EVENTNAME	☐ DATETIME ÷	□ LOCATION ÷	COMMUNITYNAME ÷
1	Workout Day	2024-10-31 10:00:00.000000	UBC	Gym
2	Christmas Stock Celebration	2024-12-25 11:00:00.000000	UBC	Stocks
3	Minecraft Thanksgiving Event	2024-10-09 12:00:00.000000	UBC	Minecraft
4	SQL Party	2024-01-31 13:00:00.000000	UBC	Databases
5	Cardio Hating Party	2024-03-01 14:00:00.000000	UBC	Gym
6	SFU Party	2023-06-21 11:00:00.000000	SFU	Party
7	Cardio Loving Party	2023-06-20 11:00:00.000000	SFU	Gym
8	Push Day	2023-06-19 10:00:00.000000	SFU	Gym
9	Pull Day	2023-06-19 10:00:00.000000	BCIT	Gym

	ুতু USERNAME ÷	₩ EVENTNAME ÷	ু DATETIME	±
1	304ta	Minecraft Thanksgiving Event	2024-10-09 12:00:00.000000	
<u> </u>		, ,		
2	dman	Cardio Hating Party	2024-03-01 14:00:00.000000	
3	dman	Cardio Loving Party	2023-06-20 11:00:00.000000	
4	dman	Christmas Stock Celebration	2024-12-25 11:00:00.000000	
5	dman	Minecraft Thanksgiving Event	2024-10-09 12:00:00.000000	
6	dman	Pull Day	2023-06-19 10:00:00.000000	
7	dman	Push Day	2023-06-19 10:00:00.000000	
8	dman	SFU Party	2023-06-21 11:00:00.000000	
9	dman	SQL Party	2024-01-31 13:00:00.000000	
10	dman	Workout Day	2024-10-31 10:00:00.000000	
11	olti123	Workout Day	2024-10-31 10:00:00.000000	
12	rickybangbang	Cardio Hating Party	2024-03-01 14:00:00.000000	
13	rickybangbang	Cardio Loving Party	2023-06-20 11:00:00.000000	
14	rickybangbang	Christmas Stock Celebration	2024-12-25 11:00:00.000000	
15	rickybangbang	Minecraft Thanksgiving Event	2024-10-09 12:00:00.000000	
16	rickybangbang	Pull Day	2023-06-19 10:00:00.000000	
17	rickybangbang	Push Day	2023-06-19 10:00:00.000000	
18	rickybangbang	SFU Party	2023-06-21 11:00:00.000000	
19	rickybangbang	SQL Party	2024-01-31 13:00:00.000000	
20	rickybangbang	Workout Day	2024-10-31 10:00:00.000000	
21	sevaman	SQL Party	2024-01-31 13:00:00.000000	

DIVISION GUI:

● ● Social Media
Home Projection Search Users Admin Manager Finder Astrology Search Create User Update User
Find the number of users per birth year Find Find the popular event locations > 2 Find Find the number of users per starsign Find Find the users who find attended all events Find
Find users with starsign Aries Submit
USERNAME
dman cickybangbang