

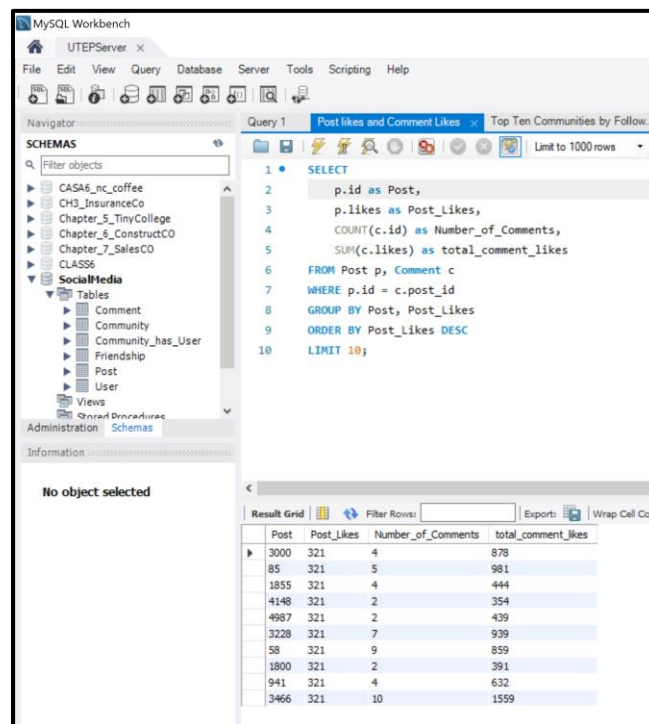
Business Opportunities

I. Buisness Opportunity: Reach of Communities vs. Comments on Most Popular Post

a. SQL STATEMENT & and SQL Screen Captures:

i. SQL for Top 10 Post and the amount of likes on Post and Comments

```
SELECT
    p.id as Post,
    p.likes as Post_Likes,
    COUNT(c.id) as Number_of_Comments,
    SUM(c.likes) as total_comment_likes
FROM Post p, Comment c
WHERE p.id = c.post_id
GROUP BY Post, Post_Likes
ORDER BY Post_Likes DESC
LIMIT 10;
```



The screenshot shows the MySQL Workbench interface. The 'Query 1' tab is active, displaying the SQL query. The 'Result Grid' at the bottom shows the results of the query, which are sorted by Post_Likes in descending order. The results include columns for Post, Post_Likes, Number_of_Comments, and total_comment_likes.

Post	Post_Likes	Number_of_Comments	total_comment_likes
3000	321	4	878
85	321	5	981
1855	321	4	444
4148	321	2	354
4987	321	2	439
3228	321	7	939
58	321	9	859
1800	321	2	391
941	321	4	632
3466	321	10	1559

ii. SQL for Top ten Communities based on Followers

```
SELECT * FROM Community
ORDER BY followers DESC
LIMIT 10;
```

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The screenshot shows the MySQL Workbench interface. The 'Query 1' tab is active, displaying a SQL query: `SELECT * FROM Community ORDER BY followers DESC LIMIT 10;`. The 'Result Grid' shows the top 10 communities based on their number of followers. The table has columns: id, name, followers, description, and creation_date. The data is as follows:

id	name	followers	description	creation_date
138	Wind	265	Career address again.	1970-03-11 13:21:52
141	Ball attorney	265	Figure service fly nearly.	1986-08-07 18:41:39
206	Thought sing	264	Born week few letter thing.	1979-01-18 07:43:47
29	Drug	263	Both production firm protect hospital read certain.	2003-05-19 19:07:05
245	Cover laugh within city	262	Everything professional discover establish.	2005-08-23 13:40:54
476	Argue administration image reach	262	Thus strategy station between.	2015-04-08 06:35:45
272	Manage back now	262	Party development work among spring own.	1999-10-09 01:49:06
294	Reveal red score executive	261	White federal financial sing different family stay.	1990-07-27 22:48:38
259	While down attack	261	Audience large system.	1999-11-21 11:33:01
248	Reveal former whose	261	Region store soldier fast friend.	1996-12-14 17:40:11

b. Description of SQL statement and Usefulness to the Business :

i. SQL for Top 10 Post and the amount of likes on Post and Comments

The SQL for this query makes use of the Primary key from Post ID to help us locate the comments found on the top ten post. This is possible because Post "ID" is an Foreign key in the Comment Table. Next is to count the number of comments found on these post as well as the summation of likes these comments have received. This is done by using the COUNT and SUM commands.

ii. SQL for Top ten Communities based on Followers

The SELECT all statement allows us to view and all information pertaining to the Community Table. By using an ORDER BY we can easily see which communities have the most followers.

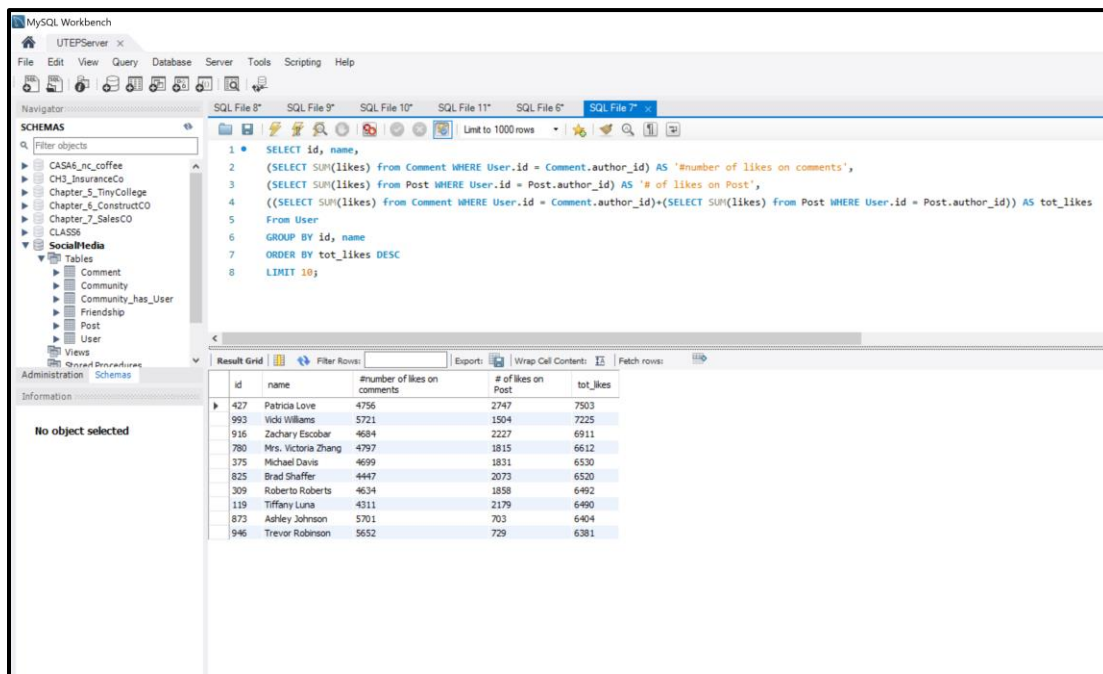
c. Suggestion for Business opportunity.

The results from Community table show us that the reach of the 10 most popular communities have a between 261 and 265 followers each. Compared to the likes from the top 10 post that have the most likes vary greatly in size but prove to have more reach than any community. Another thing to note is that communitys may share users between them. There is not a rule that you can only belong to one community, thus community reach is very limited when compared to the reach of comments. With this information in hand, I do not believe it is suitable for advertisements to be shown on the top ten communities because it may antagonize the users of the most popular post. In the future, if the communities grow, this can be revisited.

II. Business Opportunities: Recognize Participation

a. SQL STATEMENT & and SQL Screen Captures:

```
SELECT id, name,  
(SELECT SUM(likes) from Comment WHERE User.id = Comment.author_id) AS '#number of likes on  
comments',  
(SELECT SUM(likes) from Post WHERE User.id = Post.author_id) AS '# of likes on Post',  
((SELECT SUM(likes) from Comment WHERE User.id = Comment.author_id)+(SELECT SUM(likes) from  
Post WHERE User.id = Post.author_id)) AS tot_likes  
From User  
GROUP BY id, name  
ORDER BY tot_likes DESC  
LIMIT 10;
```



The screenshot shows the MySQL Workbench interface. The SQL editor contains the query from the previous block. The 'Result Grid' tab is active, displaying the results of the query. The results are sorted by 'tot_likes' in descending order, limited to 10 rows. The columns are: id, name, #number of likes on comments, # of likes on Post, and tot_likes.

id	name	#number of likes on comments	# of likes on Post	tot_likes
427	Patricia Love	4756	2747	7503
993	Vicki Williams	5721	1504	7225
916	Zachary Escobar	4684	2227	6911
780	Mrs. Victoria Zhang	4797	1815	6612
375	Michael Davis	4699	1831	6530
825	Brad Shaffer	4447	2073	6520
309	Roberto Roberts	4634	1858	6492
119	Tiffany Luna	4311	2179	6490
873	Ashley Johnson	5701	703	6404
946	Trevor Robinson	5652	729	6381

b. Description of SQL statement and Usefulness to the Business :

Using nested SELECT statement is not the best choice due to its overwhelming need to execute every select statement. This takes time and processing power. However, this was the only way I found that worked. Trying to connect the tables using WHERE clauses connecting foreign keys resulted in odd calculations, such as certain users having upwards of 75 thousand likes. When this user was checked through individual likes they would only have around 7 thousand likes across Post and Comment tables. This gave me the idea that by inserting SELECT statements that I knew worked, would create a system in which the odd calculations could be avoided. The last Select is for an easy interpretation of the total amount of likes that a user has across the tables Post and Comment. Displaying name along with user id allows the company to easily access who the most valuable 10 employees are in form of interaction.

c. **Suggestion for Business opportunity:**

The top ten users, in relation to likes, are found in the SQL capture above these ten employees should be rewarded with monetary recognition because of their importance to engagement within the company.

Business Problems

III. Invalid Users

a. **SQL STATEMENT & and SQL Screen Captures:**

First Screen Capture “Invalid Users Comment and Delete”:

```
SELECT * FROM Comment c
WHERE author_id NOT IN (SELECT id FROM User);
```

```
DELETE FROM Comment c
WHERE author_id NOT IN (SELECT id FROM User);
```

Second Screen Capture “Invalid Users Post and Delete”:

```
SELECT * FROM Post
WHERE author_id NOT IN (SELECT id FROM User);
```

```
DELETE FROM Post
WHERE author_id NOT IN (SELECT id FROM User);
```

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MySQL Workbench

UTEP Server

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SCHEMAS

Filter objects

CASAS_nc_coffee
CH3_InsuranceCo
Chapter_5_TinyCollege
Chapter_6_ConstructCO
Chapter_7_SalesCO
CLASS6
SocialMedia
Tables
Comment
Community
Community_has_User
Friendship
Post
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Views
Stored Procedures

Administration Schemas

Information

No object selected

SQL File 8* SQL File 9* SQL File 10* Invalid Users Comment Invalid Users Post

```
1 SELECT * FROM Comment c
2 WHERE author_id NOT IN (SELECT id FROM User);
3
4 DELETE FROM Comment c
5 WHERE author_id NOT IN (SELECT id FROM User);
6
```

Result Grid

id	text	creation_date	likes	post_id	author_id
108	Mouth red dog home room offer board special s...	1975-02-16 02:00:26	216	2165	590
216	Against while manager thought defense low des...	1981-05-17 11:51:48	13	3786	314
317	Return less health enough phone rate we huge ...	2010-04-21 03:42:44	109	3812	973
347	Garden always born response life when light po...	1981-02-16 20:59:01	189	3555	174
574	Where bed important hundred agree far result ...	2012-03-29 12:06:32	55	889	810
638	Soon call not add forget film human group who ...	2010-07-31 19:36:22	68	4649	810
734	Three development section establish though co...	2018-07-19 05:01:04	5	4383	314
1037	Step prevent cut occur top until most foreign ar...	1996-01-08 19:46:58	106	493	174
1078	Financial role station drug police instead individu...	2022-02-26 04:55:48	240	4660	973
1086	Court bit administration cover build out exactly ...	1999-01-01 18:10:35	39	1346	314
1129	Party detail Mrs wish common world last finally c...	1982-12-31 00:22:12	143	2150	973
1199	Environment open effort heavy decide quickly d...	2010-07-03 17:34:07	122	2966	192
1344	Take others up suddenly give according do sea ...	2011-12-19 07:49:54	210	4737	192
1502	Water commercial street none plan affect near...	1979-01-23 06:13:08	281	1036	973
1523	Moment should look away boy before concern n...	1980-06-08 16:42:55	204	1757	590
1616	Apply lose study light assume yes plant traditio...	1980-07-04 22:56:44	151	3949	973
1722	True never choose onto religious offer.	1986-05-28 08:27:54	195	823	810
1746	Training enjoy population game history sit four ...	1995-04-05 15:05:12	71	1678	192

Object Info Session Comment 12 x

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MySQL Workbench

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SQL File 8* SQL File 9* SQL File 10* Invalid Users Comment Invalid Users Post

```
1 SELECT * FROM Post
2 WHERE author_id NOT IN (SELECT id FROM User);
3
4 DELETE FROM Post
5 WHERE author_id NOT IN (SELECT id FROM User);
```

Result Grid

id	text	creation_date	likes	author_id
15	Down wish end safe question summer show whi...	2006-07-02 03:46:18	129	813
21	Individual price involve later rest plant thousand ...	1987-04-19 14:47:31	67	810
185	Recognize sound miss edge help drop future en...	1994-06-14 02:18:42	47	813
273	Stay loss or direction stock painting bring includ...	1986-11-24 19:08:34	156	174
344	Weight surface fear among white car yourself h...	2019-02-13 13:20:55	179	590
346	Resource join operation hundred race develop...	1978-08-22 08:10:39	312	174
457	Popular performance letter apply bag enjoy sco...	2002-08-03 17:18:00	2	810
518	Yourself strong myself attorney myself security ...	1997-11-09 08:16:57	305	810
555	Former difference also arm likely million firm aro...	2010-10-06 15:18:03	321	174
1249	Pick security space service maybe here be boar...	2013-11-22 01:42:16	112	973
1406	Risk culture seek wrong teach hour southern wi...	2005-08-07 03:25:16	4	813
1505	Congress choice though however better this po...	2010-08-16 13:58:34	304	973
1622	Though dam never movement water performan...	1974-05-12 15:52:52	80	810
1739	Risk relationship then beyond executive career ...	1992-09-20 00:38:22	181	813
1841	Card season development cost sound question ...	1986-10-27 23:40:24	27	973
1893	Choose fire vest many modern statement while...	2019-12-26 08:36:37	111	192
2131	Head eye too report arrive issue be short scient...	2015-07-26 05:02:51	31	174
2330	Partner crime one carry fish live blood himself re...	1996-10-02 13:43:31	80	813
2335	Issue structure wind single fly along buy class d...	1972-02-13 11:01:02	114	590
2337	We country film difference his worker onto sign...	2021-11-17 15:25:03	213	590
2437	Hand radio plan bring term federal ground on b...	2021-08-26 14:14:23	211	810
2493	Serious purpose anything back wrong hair churc...	1993-04-27 06:34:39	160	174
2547	Smile help pass director approach value thought...	2006-05-11 23:41:12	316	590
2904	Of doctor choice as deal quickly show govern...	1984-08-19 02:20:17	284	590

Object Info Session Post 11 x

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b. Description of SQL statement and Usefulness to the Business

i. Invalid Users in Comments and Post:

Using the same concept that was used in the question pertaining to employee engagement this approach allows us to easily identify which posts have been created from invalid users. By having the WHERE clause check if the author id is present in User id we filter every valid users. The only ones that remain are the post and comments from unauthorized users.

ii. Delete invalid User Comments and Post:

The simplicity in this approach is that once it is verified that these users are invalid, we can erase them with ease. By replacing SELECT with DELETE we can delete all post and comments created by invalid users.

c. Changes to Validate Users:

- i. An issue seems to be present that even without being a valid user you are still able to post and comment on said post. With the information given at hand the best course of action would be to only grant INSERT privileges to those users that can be found in the User table. Another possible solution could be to add a CHECK constraint on the Post and Comment table that would make sure that the User id exist in the User table. Both these option can prove to be helpful in preventing invalid users access to the Post and Comment Tables.