

Social media Analytics

First we create database name as Social_media_db.

```
Create database Social_media_db ;
Use Social_media_db ;
```

Now we will create tables name as Users , Post , Likes , comments , followers , hashtags.

Users table :

```
Create table users (
User_id int primary key,
Username varchar(50),
First_name varchar(50),
email varchar(100),
join_date date,
country varchar(20)
);
```

Values :

User_id	Username	First_name	email	join_date	country
1	achang	Vincent Tucker	nhoward@hotmail.com	2021-09-11	Finland
2	katelynmontgomery	Theodore Mograth	corey15@castro-gomez.com	2022-04-02	Mexico
3	hramos	Robert Dunn	cortezraymond@garrett.com	2022-08-02	Saint Lucia
4	jane13	Connie Pratt	udavis@bolton.com	2021-07-28	Mayotte
5	lisa83	Lindsey Matthews	carlsonpaul@hotmail.com	2022-07-28	French Guiana
7	melissajacobson	Tiffany Riley	skeller@yahoo.com	2021-03-18	Greece
8	tuckercrystal	Dana Dennis	nathanjackson@cabrera-garcia.com	2022-05-16	Aruba
9	johnsoncynthia	Laura Myers	johnsonandrew@gmail.com	2021-07-25	Lesotho
11	gordonbenjamin	William Gonzalez	kmassey@gmail.com	2022-03-29	Seychelles
13	deborah64	Michael Ellis	joanne84@allen.com	2022-12-17	Peru
14	brittany92	Jasmine Perry	wheelerholly@allen.info	2023-09-25	Russian Fed...
16	simpsonlarry	Robert Golden	amymccarty@gmail.com	2021-08-15	American Sa...
17	aherring	Daniel Love	leecharlene@russo.com	2021-05-13	Lebanon
18	bburton	Jesse Sparks	desireerth@hotmail.com	2023-06-19	Brazil
19	joshuasmith	Michael Grant	mathissusan@hotmail.com	2024-09-19	Rwanda
20	xbowman	Cassandra Bennett	taylorjoseph@yahoo.com	2023-08-20	Saint Barthel...
21	morganchristine	Christopher Holden	ralph82@yahoo.com	2021-06-27	Lesotho
22	sarahparker	Monica Turner	robert18@yahoo.com	2024-07-17	Guadeloupe
23	david17	Eric Navarro	courtneybennett@miller.com	2021-01-12	Hungary
24	garciaangela	Thomas Kramer	omiller@richards-jackson.com	2023-07-24	Brazil
25	shortmelissa	Joseph Goodwin	crawfordjonathan@williams.com	2021-05-27	Congo
26	lgray	Ashley Carlson	annelittle@yahoo.com	2024-12-11	Lithuania
27	martha73	Tara Smith	austin24@hotmail.com	2021-11-02	Tajikistan
29	mistymurray	James Moreno	gregorylinda@mooney.com	2022-12-22	Martinique
30	epetersen	Valerie Lawson	sandovalaaron@turner.com	2023-05-05	Bahrain
31	theath	Janet Reyes	johnblair@brown-johnson.biz	2021-09-16	Liechtenstein
32	nunezedward	Mrs. Lisa Hughes	ruizedward@george.com	2021-05-29	Reunion

Likes table :

```
Create table posts(
Post_id int primary key,
User_id int,
Content varchar(200),
Location varchar(50),
foreign key (user_id) references users(user_id)
);
```

Values :

	Post_id	User_id	Content	Location
	1	865	Senior your near ago note true.	Lake Bryan
	2	395	Listen expect anything view both occur soon wh...	Wiseton
	3	777	Reveal give every letter total early threat mother...	North Christopher
	4	912	Apply whole rate perhaps fight onto.	South Carl
	5	431	Standard skin woman board so trade meet the s...	South Juan
	6	42	Four other opportunity challenge matter conside...	Lake Ericfurt
	7	266	Fine represent stay can public someone trial gas.	Rossshire
	9	524	Choice pretty important half rest involve control...	Aguilarside
	10	498	So compare sign less scene above traditional n...	Christopherberg
	12	941	Eat behind quality court season standard heavy...	South Army
	13	803	How ball prepare rich very charge true stand as...	West Dawn
	14	850	Quite theory quite shoulder explain enjoy deep...	North Nicolestad
	15	311	Business language out myself hear travel right fi...	Andersonside
	16	992	Better usually pass among southern stay.	Phillipstown
	17	489	It as understand office thing they their successf...	South Thomasfurt
	18	367	Reduce boy indeed end country dinner son son...	Port Joshuahaven
	19	598	Health add run situation know decision employe...	Brianfurt
	21	930	Line front tough head visit off.	South Rachelha...
	22	224	Note over choose keep mind avoid threat general.	Fergusonfort
	23	517	Nation force marriage natural all single west ha...	Caseville
	24	143	World huge end less prepare big speak why.	Jasonburgh
	25	289	Surface around friend miss drug raise herself.	New Richard
	26	144	Treatment go able trouble TV all.	Lake Anthony
	27	774	Both another game figure bed concern pretty du...	Kelseyport
	28	98	Per heavy something offer space once natural s...	Morrisbury
	29	634	Happy detail drive ago concern pattern certainly...	West Kristinshire
	30	819	Forward carry effect Republican hold become to...	East Seanton

Likes table :

```
Create table likes (  
like_id int primary key,  
user_id int,  
post_id int,  
liked_at date,  
foreign key (user_id) references users(user_id),  
foreign key (post_id) references posts(post_id)  
);
```

Values :

	like_id	user_id	post_id	liked_at
	1	395	2107	2023-09-02
	2	203	3972	2025-05-21
	3	902	3858	2024-09-03
	4	272	4223	2023-01-17
	5	414	1088	2024-08-13
	8	711	128	2025-01-26
	9	213	2777	2025-01-11
	10	268	896	2022-08-27
	11	674	256	2024-11-13
	13	331	1578	2023-06-06
	14	339	3362	2022-12-06
	15	799	1045	2025-01-01
	17	256	2929	2024-04-15
	18	780	3870	2023-03-29
	21	438	3575	2024-02-05
	22	420	2988	2023-02-17
	23	599	865	2023-07-01
	25	821	3710	2024-04-05
	26	135	787	2023-08-06
	27	16	4300	2022-12-31
	28	880	3165	2023-07-12
	29	671	3933	2024-10-20
	31	653	792	2023-02-19
	32	432	470	2022-12-09
	33	692	2428	2024-12-03
	34	616	1397	2023-10-30
	35	309	2282	2023-12-28

Comments table :

```
Create table comments (  
Comment_id int primary key,  
Post_id int,  
User_id int,  
Comments varchar(200),  
Commented_at date,  
foreign key (post_id) references posts(post_id),  
foreign key (user_id) references users(user_id)  
);
```

Values :

	Comment_id	Post_id	User_id	Comments	Commented_at
	3	1606	886	Book lot PM heavy leave commercial candidate...	2023-12-15
	6	618	795	Clear law special hope the during political tax.	2024-10-27
	7	1371	731	Require mention upon challenge language itself...	2024-03-27
	8	2010	939	Require sure quite show customer painting sit.	2024-12-31
	9	1321	830	Yeah into remember western body point least w...	2022-09-10
	10	2949	795	Hair source two create natural majority class ow...	2024-02-11
	11	395	158	Able country hard seek still her since explain pr...	2024-11-04
	12	183	651	Poor still executive clearly way upon nature refl...	2024-06-18
	13	4653	56	Conference improve serve response current de...	2023-03-21
	14	485	121	Center way close measure develop their three o...	2025-03-17
	15	3112	463	Get interesting wear sure anyone during leave a...	2024-09-25
	18	1599	222	Board level view cultural financial thing finally ot...	2022-08-16
	19	386	231	Interesting message wall child step end vote mu...	2025-02-22
	21	399	841	Radio character expert sing course different seri...	2023-05-15
	22	1201	880	Indicate something stuff former street economic...	2024-10-23
	25	2909	55	Old produce past among great old understand l...	2022-10-01
	26	4510	623	Only join evening shoulder return sea radio trou...	2023-10-05
	29	1317	864	Southern difficult draw next week with benefit se...	2024-06-28
	31	4635	897	Garden order meet total along appear process e...	2024-11-29
	32	301	437	Test experience official include charge will analy...	2023-05-26
	33	525	58	Military among statement that strategy weight re...	2022-08-15
	35	2506	42	Drop church tree thousand approach question s...	2023-11-18
	36	2791	396	Carry investment check want type spend real of...	2023-01-10
	37	1742	505	Third anything commercial return chair point me...	2024-12-17
	38	4813	648	Heart lay trip paper here stock environment styl...	2023-05-25
	39	1925	94	Night red without ready recently morning time re...	2022-12-15
	41	698	143	Law ask from office quality fear throw dog.	2022-11-30

Followers table :

```
Create table followers (  
follower_id int primary key,  
User_id int,  
following_id int,  
followed_at date,  
foreign key (user_id) references users(user_id)  
);
```

Values :

	follower_id	User_id	following_...	followed_at
	1	773	194	2023-08-31
	2	252	194	2024-10-09
	3	580	271	2023-06-27
	5	941	321	2024-07-31
	6	114	111	2024-12-16
	7	777	378	2023-11-18
	11	171	277	2023-02-18
	14	757	71	2023-09-14
	15	597	813	2024-04-06
	17	53	146	2024-05-22
	18	188	287	2024-10-17
	19	380	819	2023-11-10
	20	839	992	2024-09-08
	21	735	45	2025-02-23
	22	413	672	2024-11-29
	23	63	674	2024-05-01
	24	482	31	2024-03-02
	26	746	788	2025-01-19
	27	361	485	2023-07-21
	28	514	974	2025-06-16
	29	549	978	2024-12-12
	30	737	297	2023-01-24
	31	57	94	2023-01-11
	32	38	176	2023-05-05
	33	491	603	2022-09-18
	34	1	64	2022-09-04
	36	949	563	2024-11-01

Hashtags :

```
Create table hastags (  
hastags_id int primary key,  
hastags varchar(50)  
);
```

Values :

	hastags_id	hastags
	1	#owner
	2	#nice
	3	#memory
	4	#interesting
	5	#himself
	6	#sister
	7	#police
	8	#rise
	9	#authority
	10	#ability
	11	#research
	12	#organiza...
	13	#feel
	14	#top
	15	#light
	16	#keep
	17	#by
	18	#then
	19	#civil
	20	#rise
	21	#down
	22	#as
	23	#specific
	24	#song
	25	#show
	26	#ability
	27	#friend

- Which post has received the most likes?

```
SELECT
    posts.post_id, COUNT(like_id) AS total_likes
FROM
    posts
    JOIN
        likes ON likes.post_id = posts.post_id
GROUP BY posts.post_id
ORDER BY total_likes DESC
LIMIT 1;
```

- Which users have posted the most content?

```
SELECT
    users.username, COUNT(post_id) AS total_post
FROM
    users
    JOIN
        posts ON users.user_id = posts.user_id
GROUP BY users.Username
ORDER BY total_post DESC;
```

- Find the top 5 most active commenters.

```
SELECT
    users.username, COUNT(comment_id) AS total_comments
FROM
    users
    JOIN
        comments ON users.user_id = comments.user_id
GROUP BY users.username
ORDER BY total_comments DESC
LIMIT 5;
```

- Which user posted a specific post (e.g., post_id = 21)?

```
SELECT
    users.username, content, posts.post_id
FROM
    users
    JOIN
        posts ON users.user_id = posts.user_id
WHERE
    post_id = 21;
```

- Get the number of likes and comments each post has.

```
SELECT
    posts.post_id,
    COUNT(comments.Comment_id) AS total_comments,
    COUNT(likes.like_id) AS total_likes
FROM
    posts
    JOIN
    likes ON posts.Post_id = like_id
    JOIN
    comments ON posts.post_id = comments.post_id
GROUP BY posts.Post_id
ORDER BY total_comments , total_likes DESC;
```

- Top 10 users with the most followers

```
Select Users.username , count( followers.follower_id ) as highest_followers from users
join followers
on followers.user_id = users.user_id
group by users.username
order by highest_followers desc
limit 10 ;
```

- Find users who have never received any likes on any of their posts.

```
SELECT
    users.username, users.user_id
FROM
    users
    JOIN
    likes ON likes.user_id = users.user_id
GROUP BY users.username , users.user_id
HAVING COUNT(likes.like_id) = 0;
```

- List users who follow more than 50 people.

```
SELECT
    users.username, COUNT(following_id) AS following_count
FROM
    users
    JOIN
    followers ON users.user_id = followers.user_id
GROUP BY users.username
HAVING following_count > 50;
```


- We create a view with the above tables.

```
CREATE VIEW view_post_likes AS
SELECT
    users.username,
    users.email,
    posts.post_id,
    posts.content,
    COUNT(likes.like_id)
FROM
    users
    JOIN
    posts ON users.user_id = posts.user_id
    JOIN
    likes ON posts.post_id = likes.post_id
GROUP BY users.username , users.email , posts.post_id , posts.content;
```

- Who are the top 5 most active users (based on combined posts + comments)?

```
SELECT
    users.username,
    COUNT(posts.post_id) AS total_posts,
    COUNT(comments.comment_id) AS total_comments
FROM
    users
    JOIN
    posts ON users.user_id = posts.user_id
    JOIN
    comments ON posts.post_id = comments.post_id
GROUP BY users.username
LIMIT 5;
```

- find the average number of comments per post per user.

```
SELECT users.user_id, AVG(total_comments.comment_count) AS avg_comment_count
FROM (
    SELECT users.user_id, posts.post_id, COUNT(comments.comment_id) AS comment_count
    FROM users
    JOIN posts ON posts.user_id = users.user_id
    JOIN comments ON posts.post_id = comments.post_id
    GROUP BY users.user_id, posts.post_id
) AS total_comments
JOIN users ON users.user_id = total_comments.user_id
GROUP BY users.user_id;
```

- Which user follows the most people?

```
SELECT
    Users.username, COUNT(following_id)
FROM
    users
    JOIN
        followers ON users.user_id = followers.user_id
GROUP BY users.username;
```

- Who received the most comments on their posts?

```
SELECT
    posts.user_id, COUNT(comments.comment_id) AS total_comments
FROM
    posts
    JOIN
        comments ON posts.post_id = comments.post_id
GROUP BY posts.user_id
ORDER BY total_comments DESC
LIMIT 10;
```

- What is the average number of likes per user?

```
SELECT
    users.username, AVG(likes.like_id) AS avg_likes
FROM
    users
    JOIN
        likes ON users.user_id = likes.user_id
GROUP BY users.username;
```


EER diagram.



