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| 1 | Create the tables for User, Circle, User\_Circle, Messages and User\_Inbox (to be created with help of Triggers) | create table user (  Id int not null auto\_increment ,  Username varchar(32) not null ,  Password varchar(32) not null ,  primary key (Id) ,  unique index Username\_UNIQUE (Username ASC) )  create table Circle (  circle\_Id int not null auto\_increment ,  Circlename varchar(32) not null ,  created\_by varchar(32) not null ,  created\_date timestamp not null default current\_timestamp on update current\_timestamp,  primary key (circle\_Id) ,  key idx\_created\_by (created\_by))  KEY `idx\_date` (`created\_date`)  create table user\_Circle (  user\_Id int not null ,  circle\_id int not null ,  subscription Boolean,  foreign key user\_circle(user\_id) references user(Id) ,  foreign key user\_circle(circle\_id) references circle(circle\_Id),  create table Messages (  Id int not null auto\_increment ,  Fk\_User\_\_From int not null ,  Fk\_User\_\_to int not null,  Content\_sent text not null ,  Circle\_id int\_not null,  primary key (Id) ,  index Fk\_Message\_User\_\_From (Fk\_User\_\_From ASC) ,  constraint Fk\_Message\_User\_\_From,  foreign key (circle\_id )  references User\_circle(circle\_Id ),  foreign key (Fk\_User\_\_From )  references User (Id )  on delete cascade  on update cascade) |
| 2 | Insert the rows into the created tables (User, Circle, User\_Circle, and Messages). | insert into user(username,password) values ("user1","Password!")  insert into circle(circlename,created\_by) values (“chatbuddy”,”user1”)  insert into user\_circle (user\_id,circle\_id,subscription) values(‘2’,’2’,true)  insert into messages(fk\_user\_from,content\_sent, Fk\_User\_\_to,circle\_id) values(“user2”,”hi”,”user1”,’2’) |
| 3 | Fetch the row from User table based on Id and Password. | select \* from user where id='2' and password="Password@" |
| 4 | Fetch all the rows from Circle table based on the field created\_by. | Select \* from circle where created\_by=”user1” |
| 5 | Fetch all the Circles created after the particular Date. | Select \* from circles where created\_date >  2019-02-20 16:16:45 |
| 6 | Fetch all the User Ids from UserCircle table subscribed to particular Circle. | Select user\_id from user\_circle where circle\_id=’2’ and subscription = true |
| 7 | Write upDate query to unsubscribe to particular Circle for the given User Id | Update user\_circle set subscription= false where user\_id=2 and circle\_id=2 |
| 8 | Fetch all the Messages from the Messages table sent by a particular User | Select content\_sent from messages where messages.Fk\_User\_\_From=(select user.Id from user where user.username ="user1")  (received messages of user2 will be of user1 sent messages) |
| 9 | Fetch all the Messages from the Messages table received by a particular User | Select content\_sent from messages where messages.Fk\_User\_\_From=(select user.Id from user where user.username ="user2")  (received messages of user2 will be of user1 sent messages) |
| 10 | Fetch all the Messages from the Messages table sent/received by a particular User. (both the Messages) | Select content\_sent from messages where messages.Fk\_User\_\_From=(select user.Id from user where user.username ="user2") |
| 11 | Write a query to send Message from particular User to another User(Use Message table - insert statement). | insert into messages(fk\_user\_from,content\_sent,content\_recieved) values(“user2”,”hi”,”user1”) |
| 12 | Write a query to send Message from particular User to particular Circle(Use Message table - insert statement) | insert into messages(fk\_user\_from,content\_sent, Fk\_User\_\_to,circle\_id) values(“user2”,”hi”,”user1”,’2’) |
| 13 | Write a query to delete particular Message which you received from User(User Inbox table - delete statement) | Delete from messages where user\_id=”user1” and id=’25’ |
| 14 | Write a query to delete particular Message which you received from particular Circle(User Inbox table - delete statement) | Delete from messages where user\_id=”user1” and circle\_id=’2’ |