Design a small database that allows us to store information about pictures, users who posted them etc.

The project is to design a relational database that allows you to store and manage pictures from multiple users of the system in line with the guidelines given below: :

- The database will store information about users of the system, primarily their names and email addresses, and pictures they post.
- Database stores captions of pictures, picture path, their date of posting, who posted them. A picture can be posted by only one user.
- Pictures can be tagged for – Art, Science, Music, History and Engineering. Multiple tags are allowed for the same picture.
- Like functionality is also supported i.e. a user can like multiple pictures.
- Use unique ids for primary keys wherever applicable, e.g. picture id, user id etc.
- Normalize the tables to sufficient depth so that anomalies and data duplication can be avoided to a larger extent
- Go through the queries to know more about database design. E.g. query"Who (user id) has liked the most pictures?"tells that database must store user ids of users liking the pictures.

What needs to be done:

- Identify tables, respective fields and relationships among tables [ER Diagram]
- Create tables
- Insert data into tables
- Write SQL to address the following queries

Development Approach:

- After identifying tables, respective fields and relationship among tables, learners should create database design diagram in the following format and discuss with the faculty.
- Incorporate the feedback from faculty on correctness of database design and proceed with creation of tables and data insertion.
- Identify the appropriate operations and express them in SQL.

Queries

1. Display Picture ids of pictures posted by user id "1"
2. Display captions of pictures posted by "2". Display 'No caption' if caption is not having any value.
3. Which pictures (picture ids) and by which users (user ids) have been posted in last 1 year?
4. Which picture/s (picture ids) has received maximum likes?
5. Display all picture ids in descending order of the likes they have got. Also display total no. of likes each picture has received.
6. Display picture ids of pictures with more than 3 likes.
7. Who (user id) has liked the most pictures?
8. Find pictures (picture ids) with more than 3 tags.
9. Display pictures with "London" in their caption. Do case insensitive search.
10. Display year, pic_id of pictures posted by User id “3” in last 5 years.
11. Display first and last names of all users who have either have an account on gmail or yahoo.
12. Add new user with user-name, his first & last name and email.
13. Add a like for Picture id 6 by user id “7”.
14. Delete all likes done by user id “3”.
15. Update last name for user id “9” to 'Kumar'.