



Constraints:
 Comments belong to exactly one user. Users however can comments 0 or any times.
 Comments also belong to at least one photo but a photo can have either 0 or many comments.
 Photos can also have as many tags as wanted. Tags belong to at least one photo.
 Albums belong to exactly one User.
 Photos belong to exactly one album.

****code below**

```
CREATE TABLE Users(  
    user_id CHAR(20),  
    first_name CHAR(10),  
    last_name CHAR(15),  
    email CHAR(20),  
    date_of_birth DATE,  
    hometown CHAR(10),  
    gender CHAR(10),  
    password CHAR(15),  
    PRIMARY KEY(user_id)
```

```
CREATE TABLE Albums(  
    album_id CHAR(20)  
    date_created CHAR(20)  
    name CHAR(20)  
    PRIMARY KEY(album_id)
```

```
CREATE TABLE contains(  
    photo_id CHAR (20),  
    album_id CHAR (20),  
    PRIMARY KEY (photo_id, album_id)  
    FOREIGN KEY (photo_id) REFERENCES Photos(photo_id),  
    FOREIGN KEY (album_id) REFERENCES Albums(album_id)  
    ON DELETE CASCADE);
```

```
CREATE TABLE belong_to(  
    album_id CHAR (20),  
    user_ID CHAR(20),  
    PRIMARY KEY (album_id),  
    FOREIGN KEY (user_id) REFERENCES Users(user_id),  
    FOREIGN KEY (album_id) REFERENCES Albums(album_id));
```

```
CREATE TABLE Photos(  
    photo_id CHAR(20)  
    data BLOB  
    caption CHAR(60)  
    PRIMARY KEY(photo_id)
```

```
CREATE TABLE Tags(  
    single_word CHAR(100)  
    PRIMARY KEY(single_word));
```

```
CREATE TABLE Comments(  
    comment_id CHAR(20)
```

```
text CHAR(100)
date CHAR(20)
PRIMARY KEY(comment_id)
```

```
CREATE TABLE wrote(
    user_id CHAR(20),
    comment_id CHAR(20),
    FOREIGN KEY (user_id) REFERENCES Users(user_id),
    FOREIGN KEY (commented_id) REFERENCES Comments(commented_id));
```

```
CREATE TABLE tagged_in(
    single_word CHAR(100),
    photo_id CHAR(20),
    PRIMARY KEY (word, photo_id),
    FOREIGN KEY (word) REFERENCES Tags(word),
    FOREIGN KEY (photo_id) REFERENCES Photos(photo_id)
    ON DELETE SET NULL);
```

```
CREATE TABLE has(
    comment_id CHAR(20),
    photo_id CHAR(20),
    PRIMARY KEY (comment_id),
    FOREIGN KEY (photo_id) REFERENCES Photos(photo_id),
    FOREIGN KEY (commented_id) REFERENCES Comments (commented_id)
    ON DELETE SET NULL);
```

```
CREATE TABLE friends(
    user1_id CHAR(11),
    user2_id CHAR(11),
    PRIMARY KEY (user1_id, user2_id),
    FOREIGN KEY (user1_id) REFERENCES Users(user_id),
    FOREIGN KEY (user2_id) REFERENCES Users(user_id));
```

RELATIONAL SCHEMA:

Users(user_id: char, first_name: char, last_name: char, password: char, date_of_birth: date, gender: char, hometown: char, email: char)

Albums(album_id: char, name: char, date: date)

Comments (comment_id: char, date: date, text: char)

Photos(photo_id: char, caption: , data: blob)

Tags(word: char)

friends _with(User1_id: char, User2_id: char)

Owns(user_id: char, album_id: char)

contains(photo_id: char, album_id: char)

wrote(comment_id: char, user_id: char)

```
has(comment_id: char, photo_id: char)
tagged_in(word: char, photo_id: char)
```

```
use tangram;
```

```
CREATE TABLE Users(
    user_id CHAR(20),
    first_name CHAR(10),
    last_name CHAR(15),
    email CHAR(20),
```

```
date_of_birth DATE,  
hometown CHAR(10),  
gender CHAR(10),  
password CHAR(15),  
PRIMARY KEY(user_id));
```

```
CREATE TABLE Tags(  
    single_word CHAR(100),  
    PRIMARY KEY(single_word),  
    FOREIGN KEY(photo_id) REFERENCES Tags(photo_id)  
        ON DELETE CASCADE);
```

```
CREATE TABLE Photos(  
    photo_id CHAR(20),  
    data BINARY(20),  
    caption CHAR(60),  
    PRIMARY KEY(photo_id)  
    FOREIGN KEY(album_id) REFERENCES Albums(album_id));
```

```
CREATE TABLE Albums(  
    album_id CHAR(20),  
    date_created CHAR(20),  
    name CHAR(20),  
    PRIMARY KEY(album_id),  
    FOREIGN KEY(photo_id) REFERENCES Photos(photo_id)  
        ON DELETE CASCADE);
```

```
CREATE TABLE Comments(  
    comment_id CHAR(20),  
    text CHAR(100),  
    date CHAR(20),  
    PRIMARY KEY(comment_id),  
    FOREIGN KEY(user_id) REFERENCES Users(user_id),  
    FOREIGN KEY(photo_id) REFERENCES Photos(photo_id)  
        ON DELETE SET NULL);
```