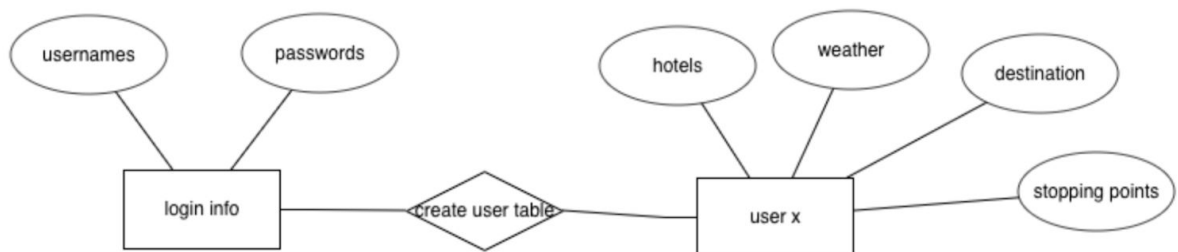**Question 1**

When a user uses our service to plan out a trip, we will store all the trip details (starting and ending location, weather, top recommended hotels) in our database. Therefore, every time a user logs into our program using their account information, they will be able to see the trip they previously planned without them having to reenter all the details for the same trip planning.

Question 2

When each user registers, his username and password will be stored in the login info table. Then there will be a table created for each user to store their road trip plan. Each user's table will have a column day(day 1, day 2…...) to indicate which day of their trip; a column hotel to indicate which hotel they will be staying each day; a column weather to indicate the weather on each given day and their location at that day; a column location to indicate the stopping points on each day of their trip.

Question 3
Diagram is on the next page

This is a hand-drawn UML sequence diagram.

Participants (lifelines):
- User
- Home Page
- database: Login table
- database: User tables
- Trip info
- Apis

Messages and notes:

User → Home Page (Log in): input username and password

Home Page (Log in) → database: Login table: check correctness

database: Login table → database: User tables: if correct

database: Login table → Home Page (Log in): if wrong

database: User tables → Trip info: pull history if there's any

Trip info note: display history if there's any

Apis note: get weather, hotel info, stopping points from weather api, hotel api and map api

Trip info → database: User tables: store new trip plan to ~~the~~ user's table

Trip info note: User input starting point and destination to plan a new road trip

Apis → Trip info: display new trip plan

User → Home Page (register): click register

Home Page register note: input username password

Home Page (register) → database: Login table: create new user's username and password

database: Login table → database: User tables: create new empty user table

database: Login table → Home Page (register): if username already exist