Databases

Directions

- This worksheet has 3 parts:
    - Part 1: LoginDB demo application
    - Part 2: Client-server interaction diagrams
    - Part 3: Reflections
- You'll need to download, setup, and run the demo application, then complete parts 2 and 3 using Google Docs or another word processor.

LoginDB

- Download the AppDev-LoginDB demo application:
    - AppDev-LoginDB
- Set up mongolab:
    - sign up for an account at mongolab
    - set up a database (check the notes for more on this)
    - modify the demo code so that LoginDB connects to your database
- Play with the app! Try each of the valid operations.
    - create
    - login
    - update
    - delete
    - logout
- Check out **Collections** on Mongolab to see the user records you created with your app.
- What happens when you… [*you'll answer these more fully in part 2]*
    - successfully create a new user?
    - try to create a use but the username is taken?
    - successfully login?
    - try to login but credentials are invalid?
    - update the password?
    - logout?
    - delete a user?

Interaction diagrams

- Example:
    - **create:**

client (index.html)		**server (server.js)**
(user) inputs username and password (user) clicks create retrieve username / pass from input fields create data object send POST request to 'create' with data	-->	receive POST request to '/create' parse data from request body find user in DB by username if user doesn't exist, insert user
check result for success update view	<--	send result in response

- Create client-server interaction diagrams like the one given for the 4 other operations listed above.
    - Please state any assumptions you're making (for example, with **update** you can assume that the user is already logged in)
    - *Note that logout doesn't require any communication with the server.*

Reflections

1. Briefly explain the following database operations, including the parameters:
    a. insert(data, callback)
    b. findOne(query, callback)
    c. update(query, operation, callback)
    d. remove(query, callback)
2. In a create request, why do you need to try to find the user by name first? What do you think would happen if you just tried to insert the user without looking first?
3. In a successful login, what data does the server send back to the client? How is this data stored on the client-side?
4. What data is send to the server with an update or delete/remove request? How is the data used on the server to update or remove a record from the DB?