Homework 7 – An image sharing site (Part I: Foundation)

Goal

Homework 7, Homework 8, and the Final Project are related. The overall goal is to design an image sharing app / site using all the concepts, languages, and technologies learned throughout the class.

This task will be structured in a series of milestones, as follows:

- ***HW 7***
  - ***Milestone 1: successful connection to database***
  - ***Milestone 2: user authentication***
- ***HW 8***
  - ***Milestone 3: basic photo uploader***
  - ***Milestone 4: improved photo uploader***
- ***Final Project***
  - ***Milestone 5: unique additional features***
  - ***Milestone 6: preparation of the final app***

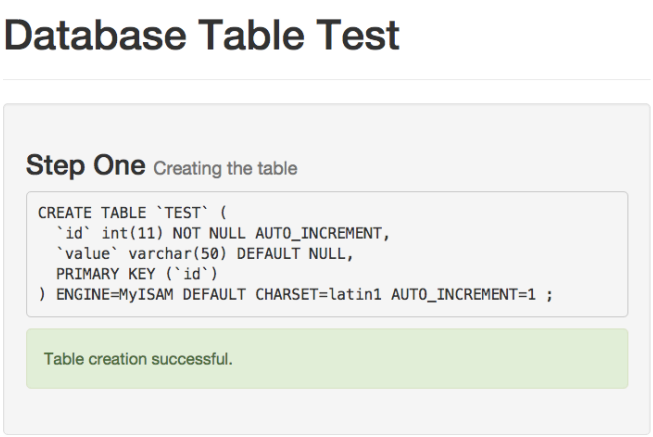
For Homework 7, your goal will be to lay out the foundation for database access, user authentication, and session management.

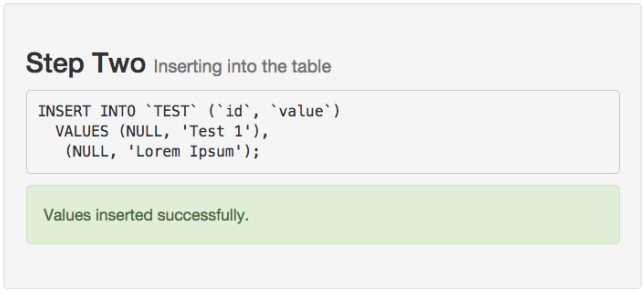
Recommended Procedure:

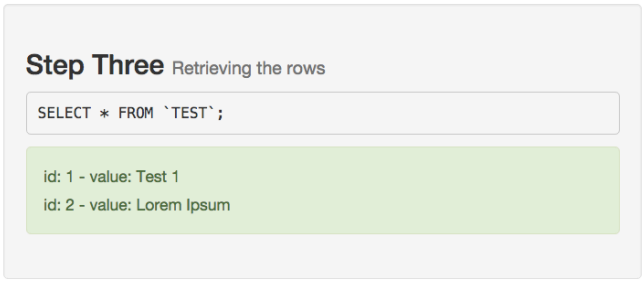
1. Make sure you have your **lamp.cse.fau.edu** server space set up. Please refer to detailed instructions and screencasts on Bb, if needed. *Please note that you **must** have a server setup for your PHP code to work*.

Milestone 1: connection with database (starter code: 'tableTest')

2. Download the tableTest.zip file from Blackboard. It consists of two files: *tabletest.php* and (under directory php) *db_connect.php*.
3. Update your *db_connect.php* file with your proper credentials.
4. Upload the two files (maintaining the proper directory structure) to your area on the server.
5. Run *tabletest.php* to test if you can successfully connect to the database. It should show the following:







Milestone 2: user authentication

6. **Create a table ('USERS') for storing user information** (see example 12.3 in the textbook). It should contain 2 fields per record, namely: *userid* and *password*. The password should be stored in encrypted form (after "salting" and hashing) (see example 12.4 in the textbook).
7. **Implement the functionality that allows a user to login** (by entering their *userid* and *password* and matching against the data stored in the USERS table in the database). See example 26.7 in the textbook for the basic functionality (ignore the visual aspects, please!). After successful login, display a page that shows a simple 'Success' message.
8. **Implement the functionality that allows a user to sign up** (by entering their intended *userid* and *password*): if the *userid* is no longer available, display an error message; otherwise, add the new *userid* and associated (encrypted) *password* to the 'USERS' table in the database and display a simple 'Success' message. (Optionally, you might want to enforce password rules, such as minimum length, etc.)
9. **(OPTIONAL)** Improve the visual aspects of your login/signup page. See examples at:
    - http://getbootstrap.com/examples/signin/
    - https://gist.github.com/bMinaise/7329874
10. **Create a *page* that looks like you want your future 'wall'** (HW 8) to look. Don't forget to include a 'Logout' button in the page.
    - See examples from a previous student at: http://lamp.cse.fau.edu/~rhubelbank2014/project5/postcard.php or check Instagram / Facebook / Pinterest.

- The tutorial / example at http://packetcode.com/article/facebook-wall-design might be useful.

11. Modify your authentication process to **implement the notion of a *session***. More explicitly, you should be able to *create a session upon successful login and destroy the session after the user logs out* (see examples 12.5 and 12.8 in the textbook).
12. **Test your implementation of a session** by conditioning the access to the wall page to successfully logged in users only. If a user is not logged in and tries to access the wall they should be redirected to the login page (see example 12.6 in the textbook).
13. **IMPORTANT: NAMING CONVENTIONS**
    - Name your main file (with login/signup screen) *index.php*
    - Name your wall file (which should only be accessible to registered users) *wall.php*
    - Make both files available at your *hw7* folder.
    - In summary, my grader and I should be able to go to http://lamp.cse.fau.edu/~username/hw7/index.php to test the signup/login functionality and to http://lamp.cse.fau.edu/~username/hw7/wall.php to test the session management functionality.
14. Once you've reached a point where your authentication and session management functionality is complete and fully functional in the browser of your choice (Chrome, Firefox, Opera, or Safari), **prepare the final package** (single zip, all that is needed, and nothing else).
15. **Submit the final package** via Blackboard.

Minimum requirements:

- Your app **must** be your own work. If you use a site, textbook example or any other source as "inspiration" along the way, please make a note of it in your report.
- Your app should demonstrate a basic understanding of PHP, HTML5, CSS, and Bootstrap.
- Your app must be fully functional.

Deliverables

- **A single zip file** containing **all** files (.php, .css, .jpg, .js, etc.) associated with your project and your report (see below).
- A **report** (2-3 pages) describing the entire process, including: the learning curve (for PHP, especially), the design process, coding troubles, functionality highlights, future improvements, etc.

  Please name your file using your FAU / Blackboard username as a filename, e.g., jsmith85.zip.

- **Grading rubric:**
  - **PHP code – correctness (sign up / login): 20 %**
  - **PHP code – functionality (sign up / login): 20 %**
  - **PHP code – quality of code (and inline comments) (sign up / login): 5 %**
  - **PHP code – correctness (session management): 20 %**
  - **PHP code – functionality (session management): 20 %**
  - **PHP code – quality of code (and inline comments) (session management): 5 %**
  - **Report 10 %**

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- **Submission**: Please **submit your files via Blackboard** using *Blackboard's assignment submission option*. **Please don't hand in any assignment by email.**

- **Deadline**: November 4, 2015 – 11:59 p.m. ET

- These guidelines may be updated. Please check your email and Blackboard often.