JSON and AJAX

In this lab, we'll use PHP to write a backend, communicating with your front end using JSON and AJAX.

JSON

JSON (JavaScript Object Notation) is a lightweight data-interchange format. It is easy for humans to read and write. It is easy for machines to parse and generate.

A JSON file looks like this:

```
{ "name":"John", "age":31, "city":"New York" };
```

AJAX

AJAX stands for `Asynchronous JavaScript + XML`. I.e., web pages can update content on the screen without refreshing the page.

Backend

Load the required database dump. Login to your MySQL database, use `source lab11.sql` to load the required database. The database dump is populated with dummy information.

Copy the `userAuth.php` file to your web space folder. Don't forget to change `yourutorid` to your utorid. Try access https://mathlab.utsc.utoronto.ca/cscb20/your_utorid/userAuth.php?user=Student9&password=Student9pwd, what happened?

Make a copy of this file, rename it to `getMarks.php`. `getMarks.php` should take in a parameter `id` and return a JSON of marks of given student. The details are up to you.

Frontend

The easiest way to do AJAX is to use the jQuery framework. However, we are going to use plain JavaScript to achieve this goal, although it may be a bit complicated.

Start with `login.html`, which is a really simple login page. Once `submit` is clicked, the web page will not refresh to redirected to any other web page. Instead, it will send an AJAX requrest to your PHP backend, which will return a JSON and be parsed into a JavaScript object.

Copy this file to your web space and run it in a browser. Try input some usernames and passwords, see what will it react. Once you figure out what is going on, delete the `alert` line in line 14.

What you final page should look like:

- if a student is authenticated, return his/her marks
- if a prof is authenticated, return everyone's score
- if a user is not authenticated, diaplay an error message