# Homework: Web Development Basics

This document defines the homework assignments from the ["Web Development Basics" Course @ Software University](https://softuni.bg/courses/web-development-basics/). Please submit as homework a single zip / rar / 7z archive holding the solutions (source code) of all below described problems.

## Guess Number Game

Implement a "Guess Number Game" in PHP. Keep the secret number in the user's session and indicate "Up" or "Down" after each guess.

* At the start page of the game (index.php) the user enters his **name** and clicks the **[Start Game]** button. The server generates a **random secret number** in range [1..100]. The user's goal is to guess the secret number. After each guess, the server says either "Congratulations" or "Up" or "Down".
* After the game is started, the browser is redirected to the game play page: play.php. The page asks the user for a number in range [1..100]. After the number is sent, the server responds with:
  + **"Congratulations, *<name>*"** – when the user's guess is the secret number. A button **[Play Again]** is shown to redirect the user to the start page.
  + **"Up"** – when the secret number is greater than the entered number. The user can enter a new guess again.
  + **"Down"** – when the secret number is less than the entered number. The user can enter a new guess again.
  + **"Invalid Number"** – when the entered value is not a number or is out of the range [1..100]. The user can enter a new guess again.

## \* TODO List

Implement a very simple TODO list in PHP. It should support user registration, user login, list TODO items, add TODO item, delete TODO item and logout. Follow the steps below to simplify your work:

* Design a MySQL database to keep the user accounts and TODO items:
  + Create table users(id, username, passwordHash) to keep the registered users. Make the column "username" unique (disallow duplicates).
  + Create table todos(id, user\_id, todo\_item) to keep the users' TODO items.
* Create a script db.php to hold your data access functions:
  + createUser(username, password)
  + isUserValid (username, password)
  + getTodoItems(user\_id)
  + addTodoItem(user\_id, todo\_text)
  + deleteTodoItem(user\_id, todo\_id)
* Create a script register.php – creates a new user in the database (by username and password).
  + Keep the users and their password hashes in the database.
  + Use the [password\_hash()](http://php.net/password_hash) PHP function to hash the users' passwords.
  + Check for duplicated usernames when creating a new user.
  + Show an error message in case of problem with the user registration.
* Create a script login.php – logins a user by username and password.
  + After successful login, save the username and user\_id in the PHP $\_SESSION and redirect to todos.php.
* Create a script list.php – implements the TODO list functionality for logged-in users.
  + First, check the logged-in user in $\_SESSION. Redirect to login.php if no user is logged in.
  + Display all TODO items of the current user. Execute MySQL select to take the items from database. Iterate over the items and render them as HTML list elements (<li>*item*</li>).
  + Right after each TODO item, display a **delete link**, that links to delete.php?todo\_id=*<id>*.
  + Implement **"Add TODO" form** that POSTS its data (TODO text) to add.php.
* Create a script delete.php to delete a TODO item by id.
  + First, check the logged-in user in $\_SESSION. Redirect to login.php if no user is logged in.
  + Get the current user\_id from the session. Get the todo\_id from the request parameters. Invoke deleteTodoItem(user\_id, todo\_id) from the db.php.
  + Redirect the browser to items.php.
* Create a script add.php to add a TODO item for the current user.
  + First, check the logged-in user in $\_SESSION. Redirect to login.php if no user is logged in.
  + Get the current user\_id from the session. Get the todo\_text from the request parameters. Invoke addTodoItem(user\_id, todo\_text) from the db.php.
  + Redirect the browser to items.php.
* Create a script logout.php to logout the current user and redirect to login.php.