NumericALL

PHP / SQL / OOP

Final practical assessment

4th August 2020

Time allowed : 4h00

Marking

At the end of the allotted time, you must deliver all of your files in a Github repository, and a score out of 20 will be given based on to the following scale:

- **Exercice 1 : 3 points**
- **Exercice 2 : 4 points**
- **Exercice 3 : 6 points**
- **Exercice 4 : 4 points**
- **Exercise 5 : 2 points**

NB it is not permitted to copy and use code obtained from previous student of this training - doing so is considered cheating and will be sanctioned

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Advice

- Don't worry if the exercises seem hard! Follow each step, one after the other.
- First, read everything!
- Take your time to code, comment your code! (You can use the instruction for the exercise as a comment)
- Keep your functions simple. They must do only one thing, it's easier to maintain.
- Concentrate on the PHP, not on the CSS!
- The more your code is readable, the easier it will be to succeed!

Exercise 1 (3 points)

Learning objective to be validated:

- PHP / MySQL

You will need, in a separate SQL file, to write the code to create three tables: A car table, a lorry table, and finally a driver table, as defined as follows:

“car” table	**“lorry” table**	**“driver” table**
- id	- id	- id
- brand	- brand	- firstname
- type	- type	- lastname
- horseposer	- horsepower	
	- payload	

Keep in mind that a driver can own multiple lorries and cars.

Exercise 2 (4 points)

Learning objective to be validated:

- Interfacing PHP and MySQL via Ajax

In this exercise, you will have to create a small Ajax form. You can use Ajax in a classical way or with the help of jQuery. The form will allow you to add a new driver to the database using the driver class created in Exercise 2.

The form will be processed in Ajax. A success or error message will be displayed depending on the input.

Exercise 3 (6 points)

Learning objective to be validated:

- Classes and Objects
- Getter and Setter
- Constructor and other predefined methods
- Class inheritance

Create the classes corresponding to the previously created tables (car, lorry, driver).

Keep in mind that a driver can own multiple lorries and cars. A car and a lorry must be immutable and it will not be possible to change their internal values (properties) after instantiation. You must use class inheritance.

Exercise 4 (5 points)

Learning objective to be validated:

- Class inheritance
- Interfacing PHP and MySQL via PHP Data Object (PDO)

Display all drivers on a homepage. You will also need to display all the vehicles related to the different drivers, in order to have a list of vehicle per driver.

For this exercise, you will need to retrieve information from the database in the form of an object.

Exercice 5 (2 points) : Improving the code

Allow time to re-read your code and make it as professional as possible, considering the following standards:

− Indented

− Conceptualized (in other words well thought out)

− Documented / Commented

− Optimized

− Refactored

− Generic

− Maintainable