I. Introduction

This test consists of 2 exercises:

1. The first is to write programs in PHP / HTML / JS to register a company in database, then to register employees attached to this company.
2. The second is to write a SQL query to collect information

Schema of the database table:

Companies

id	(serial)
name	(varchar 100)
address	(varchar 100)
license_no	(varchar 14)

Employees

id	(serial)
company_id	(interger)
name	(varchar 100)
surname	(varchar 100)
telephone	(varhar 20)
salary	(numeric)

Description of tables :

Table companies

Field | Type | Modifiers

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id | integer | not null default nextval(' companies_id_seq '::regclass)

name | character varying(100)

address | character varying(100)

license_no | character varying (14)

You may notice that the id field is associated with a named sequence companies_id_seq. This sequence allows auto-incrementation of id when inserting a line into the table (serial).

Table employees

Field	Type	Modifiers
id	integ	not null default nextval('salaries_id_seq'::regclass)
company_id	integer	
name	character varying(100)	
surname	character varying(100)	
telephone	character varying(20)	
salary	numeric	

You may notice that the field id is associated with a named sequence employees_id_seq. This sequence allows auto-incrementation of id during inserting a line into the table (serial).

Exercise 1: Development

Note: A good security code against SQL injections and against XSS flaws will be particularly appreciated.

A. Creation of a company

Checks to be made:

- The name of the company is mandatory

- The lecense number must be 14 characters long and is a positive integer

By clicking on the "Save" button, two possible cases:

case 1: The controls are fail.

    Redirect to a new page, you will have to display:

    - The appropriate error message (s)

    - The «Back» button

By clicking on the "Back" button, the user returns to the creation of the company with the data you had made.

case 2: The controls are success.

Fiche enregistrée

OK

On a new page, you will have to display:

- - The message "Save success"
- - The "OK" button must return to the company modification screen newly created with:
    - o Title change
    - o Added button "Create an employee"
    - o Addition of the "List of employees" section

Edition d'une société

Nom : MA SOCIETE SA
SIRET : 12345644451234
Adresse : 20, avenue Emile Zola

Enregistrer   Créer un salarié

Liste des salariés:
Aucun salarié.

- The "Save" button saves the changes made to the company newly created. The checks carried out in creation are to be done also for the modification.

Info:

To be able to re-display the company you are recording at a later date, it is better to know the company_id of the newly created company. For that, PostgreSQL/MySQL allows to reserve a company_id before the insertion, in order to know at advance in a certain way the company_id that will be used.

To book an id we can use the query:

select nextval ('sequence name') from table;

B. Creation of an employee attached to the company

This page must be accessible from the modification page of the company, then have the

"Create an employee" button.

When we click create an employee, we come to the following page:

Création d'un salarié

Nom :
Prénom :
Téléphone :
Salaire :

[Enregistrer] [Retour]

The "Save" button saves, with the necessary controls, and displays a new

screen with the message: "Recorded record" and an "Ok" button

Checks to be made:

- The name of the employee is mandatory,

- The salary is obligatory.

NB: in case of error or negative control, display an error message and a button

Return to return to the entry. Principle to use for everything

recording.

The message "Recorded form" will be displayed when all controls are positive

Fiche enregistrée

[OK]

Click on the "OK" button to return to the modification screen of the employee just created:

Edition d'un salarié

Nom : Duchemin

Prénom : Robert

Téléphone : 01 45 45 43 20

Salaire : 1520.12

[Enregistrer] [Retour]

The "Save" button allows you to save changes made to the employee newly created.

When you click on "Back", you have to go back to the business card with the list employees displayed below:

Edition d'une société

Nom : MA SOCIETE SA
SIRET : 12345644451234
Adresse : 20, avenue Emile Zola

[Enregistrer] [Créer un salarié]

Liste des salariés:
Duchemin

C. Description of how your code works

- In a text file deposited on the server (readme.txt), please explain more detailed how your code is structured and the choices that have been made to carry out this first exercise.

- Explain, among other things, how you have secured your code against SQL injections and XSS faults.

Exercise 2: Writing a SQL query

A company sells software. She wants to charge customers who buy her software.

Write in a text file named **exercise_sql.txt** an SQL query to bill all customers who purchased software in January 2018.
This query must output the following:
   – Client name
   – Client address
   – Product name
   – Product price
   – Quantity