

## JAVASCRIPT EXERCISES

1. Reading the following statements, please indicate which information will be printed on the screen.

```
<html>
<script type="text/javascript">
  var numLlamadas = 0;

  function calculaBinomio(a, b)
  {
    var cuadradoDeA = a*a;
    var cuadradoDeB = b*b;
    numLlamadas++;

    return cuadradoDeA + cuadradoDeB + 2*a*b;
  }

  alert(calculaBinomio(2, 3));
  alert(calculaBinomio(4, 5));
  alert(numLlamadas);
  alert(typeof(cuadradoDeA));

</script>
</html>
```

**\* Explain in detail the 4th output:**

```
alert(typeof(cuadradoDeA));
```

2. As you probably know in Javascript there is the variable type String. One of its functions is "toUpperCase", therefore we can do the following thing:

```
var s2 = "Hello World!";
alert(s2.toUpperCase ()); <- this will return: HELLO WORLD!
```

**How do you rewrite the above function in order to return this text (HELLO WORLD!) in small letters?**

3. Using the next function, the console should show the message:  
"Openbravo!!!"

```
mostrar = function(param){
  param();
}
```

4. Write a JavaScript program to check whether a matrix is a diagonal matrix or not. In linear algebra, a diagonal matrix is a matrix in which the entries outside the main diagonal are all zero (the diagonal from the upper left to the lower right).

Example:

```
[1, 0, 0], [0, 2, 0], [0, 0, 3] ] = true
[1, 0, 0], [0, 2, 3], [0, 0, 3] ] = false
```

## REACT EXERCISES

1. What are props in a component?  
Select all the options that apply.

- Are the component parameters
- is the state of the component

- It is a mechanism to put data inside the component

2. What is a component?

Mark only one option.

- An element
- A function or class that returns an element
- An element that returns a function or class
- Other:\_\_\_\_\_

3. Which of these component types are valid?

Select all the options that apply.

- Complete Component
- Class Component
- Component Function
- Parent Component
- Child Component

4. What is the state of a component?

5. What are the component lifecycle methods?

6. How would you set the state of a component?

7. Which of these implementations change the state of a component?

Check only one option.

- `this.state.value = "my value"`
- `this.setState({ value: "my value" })`
- `this.state = { "value": "my value" }`
- Others:\_\_\_\_\_

8. What happens when we change the state of a component?

9. Write a component that renders a list of elements, given a prop that contains an array of objects in the following form: { firstname: "demo", lastname: "demo", dni: 1234 }

10. Write a component that receives a prop called "data", and renders an H1 with the content of data.

11. How do you import Javascript modules installed with NPM or YARN? Check only one option.

- import name from 'node\_modules/name';
- import name from '../node\_modules/name/name.js'
- import name from '../node\_modules/name/index.js'
- import name from 'name';
- Others: \_\_\_\_\_

12. How do I import the following component, considering that it is inside a file in the same directory, called MyComponent.js?

```
export default class MiComponente extends React.Component {
  render() {
    return (
      <h1>Hello world</h1>
    )
  }
}
```

Mark only one option.

- import MyComponent from './MyComponent';
- import { MyComponent } from 'MyComponent';
- import MyComponent from 'MyComponent.js';
- import { MyComponent } from './MyComponent.js';

- Others:\_\_\_\_\_

13. What is the error in the following component?

```
const MiComponente = () => {
  <h1>
    |   Hello World
  </h1>
}
```



ERP

14. Explain, in your own words, what this component does.

Etendo

```
export class Componente extends React.Component {

  constructor(props) {
    super(props);
    this.state = {
      property: 1
    }
  }

  click = (propertyValue) => {
    this.setState({ property: propertyValue + 1 })
  }

  render() {
    return (
      <>
        <h1>{this.state.property}</h1>
        <button onClick={() => this.click(this.state.property)}>
          Click here
        </button>
      </>
    )
  }
}
```

15. What errors do you see in the following component?

```
class Componente extends React.Component {
  render() {
    this.setState(property: 'Propiedad')
    return (
      <h1>El estado es: {this.state.property}</h1>
    )
  }
}
```

16. How would you make a Rest API call from JavaScript?

17. What is the use of the useEffect hook?

18. How would you develop a custom hook that exposes methods to save and modify a counter? The hook must have a parameter that allows the developer to specify how much the counter should add for each call to the setter.

