

Clarusway



## Backend Workshop -2-

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## Workshop

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Subject:

- JS Recap

### Learning Goals

- Reviewing and remembering our basic JavaScript knowledge.

### Introduction

- Let's refresh our knowledge on Js.

### Prerequisites

We will use the VSCode you are familiar with. At the same time, we need to install Nodejs on our computer.

## Lets start

### 1. What is the output of the following code block ?

```
console.log(0.1 + 0.2);  
console.log(0.1 + 0.2 == 0.3);
```

Answer:

### 2. What is the output of the following code block ?

```
console.log(1 < 2 < 3);  
console.log(3 > 2 > 1);
```

Answer:

### 3. Write program to find the sum of positive numbers. But if the user enters a negative numbers, the loop ends, if the negative number entered is not added to sum

Answer:

### 4. What is the output of the following code block ?

```
null == undefined  
null === undefined  
isNaN(2 + null)  
isNaN(2 + undefined)  
null ? console.log("true") : console.log("false")
```

Answer:

**5. What is the output of the following code block ?**

```
var hash = "";
var count = 1;
var n = 3;
for (var x = 1; x <= 7; x++) {
  while (hash.length != count)
    hash += "#";
  hash += "\n";
  count += n;
  n++;
}
console.log(hash);
```

Answer:

**6. What is the output of the following code block ?**

```
let firstName = null
let lastName = null
let nickName = "coderBond"
console.log(firstName ?? lastName ?? nickName ?? "Anonymous")
```

Answer:

**7. What is the output of the following code block ?**

```
function onZoom(x){
  console.log("Zoom active for", x)
```

```
}

function startClass(x,y,z){
  console.log(" Class starts at", x);
  y(z);
}
startClass("20:00",onZoom,"FS");
```

Answer:

**8. What is the output of the following code block ?**

```
console.log
((function f(n){return ((n > 1) ? n * f(n-1) : n)})(5));
```

Answer:

**9. What is the output of the following code block ?**

```
(function () {
  try {
    throw new Error();
  } catch (x) {
    var x = 1, y = 2;
    console.log(x);
  }
  console.log(x);
  console.log(y);
})();
```

Answer:

**10. What is the output of the following code block ?**

```
let a = [10, 20, 30];
a[10] = 100;
console.log(a[6]);
let b = [undefined];
b[2] = 1;
console.log(b);
console.log(b.map(e => 99));
```

Answer:

**11. What is the output of the following code block ?**

```
function orderPizza(type, ingredients, callback) {
  console.log('Pizza ordered...');
  console.log('Pizza is for preparation');
  setTimeout(function () {
    let msg = `Your ${type} ${ingredients} Pizza is ready! The total bill is $10`;
    callback(msg);
  }, 3000);
}
orderPizza('Vegeterian', 'Cheese', function(message){
  console.log(message);
});
```

Answer:

**12. What is the output of the following code block ?**

```
class Employee{
  constructor(id,name){
    this.id=id;
    this.name=name;
  }
  detail(){
    console.log(this.id+" "+this.name)
  }
}
```

```
let e1=new Employee(10,"Qadir Adamson");
let e2=new Employee("Victor Hug");
let e3=new Employee(12)
e1.detail();
e2.detail();
e3.detail();
```

Answer:

**13. What is the output of the following code block ?**

```
class Animal {
  constructor(name, weight) {
    this.name = name;
    this.weight = weight;
  }
  eat() {
    return `${this.name} is eating`;
  }
  sound(){
    return `${this.name} is says`;
  }
}
class Cat extends Animal {
  constructor(name, weight) {
    super(name, weight);
  }
  sound(){
    return `${super.sound()} Meow!`;
  }
}

let felix=new Cat("felix",5)
console.log(felix.sound())
```

Answer:



## Backend Teamwork -2-

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## Teamwork

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Subject: OOP and Nodejs

### Learning Goals

- Having knowledge about backend and nodejs.
- Understand how real-life entities/objects can be transferred to the computer environment.

### Introduction

As developers, we should also be able to express what we know. This study was prepared to support this purpose. Enjoy your work.

### Practice Using the IDE in Lesson

We will use the VSCode you are familiar with. At the same time, we need to install Nodejs on our computer.

### Lets start

1. In the table below specifies the key differences between a front-end and back-end development. Indicate at the beginning of each item whether it is suitable for the front end or the back end.

.....is refers to the client-side of an application.

.....includes everything that attributes to the visual aspects of a web application.

.....refers to the server-side of an application.

..... technologies are HTML, CSS, Bootstrap, jQuery, JavaScript, AngularJS, and React.js.

.....generally includes a web server that communicates with the database to serve the users' requests.

..... some framework examples are AngularJS, React.js, jQuery, Sass, etc.

.....consists of everything that happens behind the scenes and users cannot see and interact with.

.....is the part of a web application where users can see and interact.

.....technologies are Java, PHP, Python, C++, Node.js, etc.

.....some framework examples are Express, Django, Rails, Laravel, Spring, etc.

## 2. Fill-in-the-Blank JavaScript Questions

JavaScript is primarily used for creating \_\_\_\_\_ behavior in web pages.

The \_\_\_\_\_ method is used to convert a JavaScript object into a JSON string.

In JavaScript, \_\_\_\_\_ is a function that calls another function after a specified number of milliseconds.

The \_\_\_\_\_ keyword is used to declare a variable that can be reassigned.

\_\_\_\_\_ is a JavaScript object used for handling dates and times.

A \_\_\_\_\_ is a function that takes another function as an argument and/or returns a function as a result.

The \_\_\_\_\_ method is used to add elements to the end of an array in JavaScript.

In JavaScript, \_\_\_\_\_ is the process of converting a string into a number.

The \_\_\_\_\_ keyword is used to create a new instance of an object in JavaScript.

JavaScript \_\_\_\_\_ is a runtime environment that allows executing JavaScript code server-side.

## 3. What is Nodejs? What can we do with Nodejs? Why use Nodejs?

4. Define a class named "Animal". This class should have a constructor function that takes a "species" parameter. You can learn the species of the object with a method called "get\_species".

Define a class named "Dog" derived from the Animal class. This class should have a private property named "name". It should have a constructor that takes "species" and "name" parameters. You should be able to get the name of the dog with a method called "get\_name". Additionally, the Dog class should have a method called "bark" that returns the string "Woof!"