Antwoorden Intermediate JavaScript Programming Techniques 5

Vraag 1 van 23

In JavaScript, which term is used to describe a special function that enables you to create instances of custom objects?

A. Constructor.

B. Client-side array.

C. Property.

D. Method.

Antwoordtoets: A

Feedback:

The constructor is a special function that enables you to create instances of custom objects. The constructor defines the properties and methods of your object. Defining a constructor is the first step in creating an object. *(Bron: https://www.ciwcertified.com/.)*

Vraag 2 van 23

Consider the following code block:

```
function vehicle(wheels, brand) {
                this.wheels = wheels;
                this.brand = brand;
            }
            var v1 = vehicle(4, "BMW");
            document.write(v1);
```

What will be the output of this code block?

A. `[object Object]`

B. undefined

C. 4, BMW

D.
```
Vehicle1(wheels, brand) {
    this.wheels = wheels;
    this.brand = brand;
     }
```

Antwoordtoets: B

Feedback:

In the expression, **var v1 = vehicle(4, "BMW"),** the **new** keyword is missing, without which JavaScript will not make a constructor call. As a result, a new object will not be created. In the current scenario, the **vehicle()** function is called as a simple function, which returns nothing. So, the value undefined is assigned to the **v1** variable. If the expression was **var v1 = new vehicle(4, "BMW"),** the output would be **[object Object]**. *(Bron: https://www.ciwcertified.com/.)*

Vraag 3 van 23

Which statement about the prototype property is true?

A. It is only available in JavaScript predefined objects.

B. It is only available in custom objects.

C. It is only available in DOM objects.

D. It is available in every JavaScript object.

Antwoordtoets: D

Feedback:

The **prototype** property can be used to add new properties or methods to JavaScript objects. This property can also be used with custom JavaScript objects. The **prototype** property is an object that is associated with every function and object by default in JavaScript, where function's **prototype** property is accessible and modifiable and object's **prototype** property is not visible. *(Bron: https://www.ciwcertified.com/.)*

Vraag 4 van 23

Which of the following statements about inheritance in JavaScript is true?

A. JavaScript supports both prototypal and class-based inheritance.

B. JavaScript supports only class-based inheritance.

C. Prototype-based inheritance is an example of class-based inheritance.

D. A class can inherit the properties of another class using the extend keyword.

Antwoordtoets: A

Feedback:

JavaScript supports both class-based and prototype-based (prototypal) inheritance. When an object serves as a prototype for another object, which derives the behavior of the prototype, it is called prototype-based inheritance. The prototype property is used to add properties and methods to existing prototypes. In class-based inheritance, a class inherits another class. *(Bron: https://www.ciwcertified.com/.)*

Vraag 5 van 23

Consider the following code. Which element represents the iterable?

```
function* sample() {
                var x = 0;
                while(true)
                yield x++;
                }
                var example = sample();
```

A. x

B. sample

C. example

D. yield

Antwoordtoets: C

Feedback:

The **sample()** function in the given code block is a generator function. When called, a generator function returns an **iterable** object, which is the **example** in the given code block. *(Bron: https://www.ciwcertified.com/.)*

Vraag 6 van 23

What is the purpose of the yield operator in the generator functions?

A. To pause or resume a generator function.

B. To throw an exception from the generator.

C. To return the next item in the sequence.

D. To return a generator object.

Antwoordtoets: A

Feedback:

The **yield** keyword is used to pause or resume the execution of a generator function. When a generator function is called, its execution remains paused until it is resumed using the **next()** method. *(Bron: https://www.ciwcertified.com/.)*

Vraag 7 van 23

In a custom JavaScript object, how does a method access the properties of an instance of the custom object when it is called?

A. By using the this keyword.

B. By passing in a reference to the instance as a parameter.

C. By directly accessing the properties by their names.

D. By using the element keyword.

Antwoordtoets: A

Feedback:

In a custom JavaScript object, a method uses the keyword **this** to access the properties of an instance of the custom object when it is called. The method has direct access to the properties by using the **this** keyword. *(Bron: https://www.ciwcertified.com/.)*

Vraag 8 van 23

Consider the following code block:

```
var car1 = {
      name: "BMW",
      model: "i8",
      display: function() {
          return this.name + this.model;
      }
  }
 var newCar = {
      name: "Audi",
      model: "A8"
  }
  document.write(car1.display.call(newCar));
```

What will be the output of this code block?

A. BMWi8

B. AudiA8

C. BMWi8AudiA8

D. ReferenceError

Antwoordtoets: B

Feedback:

The output of the given code block will be **AudiA8**. The **call()** method calls the **display()** function of the **car1** object in the context of the **newCar** object. This feature allows the developers to use a method defined for an object, from a different object. *(Bron: https://www.ciwcertified.com/.)*

Vraag 9 van 23

Which property is used to add additional fields to a custom object?

A. prototype

B. addField

C. addNew

D. new

Antwoordtoets: A

Feedback:

The **prototype** property can be used to add new properties or methods to JavaScript objects. It can also be used with custom JavaScript objects. *(Bron: https://www.ciwcertified.com/.)*

Vraag 10 van 23

When creating a custom object in JavaScript, what is instantiation?

A. The process of creating new copies of an object.

B. The process of defining a constructor.

C. The process of defining properties and methods of a custom object.

D. The process of returning specific method parameters to the calling statement.

Antwoordtoets: A

Feedback:

After the constructor is defined, you need to create new instances (or copies) of the object. This process is called instantiation. When you instantiate new copies of the object, you populate the object properties with information. To instantiate and then populate the properties of each new instance with actual data, you must declare variables. *(Bron: https://www.ciwcertified.com/.)*

Vraag 11 van 23

What is the purpose of the **yield** operator in the following code block?

```
function* genId() {
              var id = 0;
              while(true)
              yield id++;
              }
              var gen = genId();
```

A. Pauses the generator function.

B. Continues with the next iteration of the while block.

C. Specifies that the genId() function is a generator function.

D. Increments the value of the id variable.

Antwoordtoets: A

Feedback:

The **yield** operator is used to pause and resume generator functions. This operator is available only inside the generator functions. In the **genId()** function, it returns the value of the **id** variable and pauses the generator function. The function can be resumed using the **next()** method. *(Bron: https://www.ciwcertified.com/.)*

Vraag 12 van 23

Consider the following code block:

```
class Example { // class declaration
                  _____________(test) {
                       this.test = test;
                  }
                  display() {
                       document.write('This is a sample.');
                  }
               }
```

Identify the missing keyword.

A. this

B. super

C. constructor

D. example

Antwoordtoets: C

Feedback:

The initialization of variables in a class is done inside the constructor function. In the given code block, the **Example** class initializes the **test** variable; hence the **constructor** keyword is the missing keyword.

```
class Example { // class declaration
    constructor(test) {
        this.test = test;
    }
    display() {
        document.write('This is a sample.');
    }
}
```

(Bron: https://www.ciwcertified.com/.)

Vraag 13 van 23

Which of the following functions is declared using the function* keyword and returns iterable objects?

A. class

B. generator

C. constructor

D. iterator

Antwoordtoets: B

Feedback:

The **generator** function is defined by using the **function*** keyword. It allows the creation of iterative functions that can maintain their own state. *(Bron: https://www.ciwcertified.com/.)*

Vraag 14 van 23

Which object can access items in a collection, one at a time?

A. Class

B. Generator

C. Constructor

D. Iterator

Antwoordtoets: D

Feedback:

Iterable objects or iterators can access items in a collection, one item at a time. And, iterable is an object (or data structures) that defines its own iteration behavior, i.e., how each item in a collection is accessed. *(Bron: https://www.ciwcertified.com/.)*

Vraag 15 van 23

What will be the output of the following code block?

```
var v1 = new Vehicle1(4, "BMW");
             class Vehicle1 {
               constructor(wheels, brand) {
                   this.wheels = wheels;
                   this.brand = brand;
               }
             }
             document.write(v1.wheels + v1.brand);
```

A. undefined

B. [object Object]

C. 4BMW

D. ReferenceError

Antwoordtoets: D

Feedback:

The script will not run because of a reference error in the code. In the code, the variable **v1** is initialized before the class is created, which leads to a **ReferenceError**. This error occurs when a non-existent variable is referenced in the code block. In JavaScript, class declarations are not hoisted, and all classes must be declared before their objects are created. *(Bron: https://www.ciwcertified.com/.)*

Vraag 16 van 23

What does a constructor do?

A. Creates an empty template from which real-time objects, called instances, can be generated.

B. Creates a database-like structure into which you can store custom objects.

C. Creates an instance of a custom object, and a new constructor is needed for each instance.

D. Creates properties and methods that can be passed into custom objects.

Antwoordtoets: A

Feedback:

Specifically, a constructor creates an empty template from which real-time objects, called instances, can be generated. After defining a new JavaScript object template, object constructor with some parameters can be passed. These parameters will contain the object's properties when the object is created. *(Bron: https://www.ciwcertified.com/.)*

Vraag 17 van 23

What is inheritance?

A. Calling a function inside another function.

B. Deriving the state and behavior of another object.

C. Creating and initializing objects.

D. Assigning the values of one object to another.

Antwoordtoets: B

Feedback:

Inheritance allows an object to derive the state and behavior of another object. JavaScript supports two types of inheritance, which are class-based inheritance and prototype-based inheritance. A class can inherit the properties of another class using the extends keyword. *(Bron: https://www.ciwcertified.com/.)*

Vraag 18 van 23

What is the term for a JavaScript function used to create a custom object?

A. Constructor.

B. Initializer.

C. New.

D. Loader.

Antwoordtoets: A

Feedback:

You define, or create, a custom JavaScript object with a special function called a constructor. The concept of a constructor in JavaScript is similar to that used in C++ and Java. The constructor defines the properties and methods of your object. Defining a constructor is the first step in creating an object. *(Bron: https://www.ciwcertified.com/.)*

Vraag 19 van 23

The following code is part of a constructor function. If methodName is a function that is defined later in the code, what is the difference between the following expressions?

```
// First expression
              this.methodName = methodName;
// Second expression
              this.methodName = methodName();
```

A. There is no difference in the first and the second expression.

B. The first expression identifies methodName as a variable, not a function.

C. The second expression is invalid and will generate a syntax error.

D. The second expression will result in a function call as soon as an object of the constructor function is created.

Antwoordtoets: D

Feedback:

Both the expressions will define the function **methodName** for the constructor with one exception. The second expression will result in a function call as soon as an object of the constructor function is created. *(Bron: https://www.ciwcertified.com/.)*

Vraag 20 van 23

Which JavaScript keyword is used to access the functions of the parent object?

A. constructor

B. this

C. super

D. new

Antwoordtoets: C

Feedback:

The **super** keyword is used in JavaScript to call the functions on a parent object. Also, if a child class has a constructor function, the constructor function of the parent class must be called using **super()**. *(Bron: https://www.ciwcertified.com/.)*

Vraag 21 van 23

Which of the following statements is true of constructors in JavaScript?

A. JavaScript classes do not need a constructor.

B. For each class, at most, one constructor can be defined.

C. Constructors are defined using the function keyword but have a name similar to that of the class.

D. Constructors are only needed when objects of a class are created without the new keyword.

Antwoordtoets: B

Feedback:

Each JavaScript class must contain one and only one constructor to initialize its methods and properties. If a class contains more than a constructor, the code will return an error. *(Bron: https://www.ciwcertified.com/.)*

Vraag 22 van 23

Consider the following code block:

```
class Example { // class declaration
                    constructor(test) {
                        this.test = test;
                    }
                    display() {
                        document.write('This is a sample.');
                    }
                }
                class Sample extends Example {
                    constructor(test) {
                        _____________(test); // Missing keyword
                    }
                    display() {
                        document.write('This is a sample.');
                    }
                }
```

Which of the following keywords should be added in the above code?

A. this

B. super

C. constructor

D. example

Antwoordtoets: B

Feedback:

If a derived class (Sample) has a constructor method, the constructor of the parent class (Example) must be called using the **super** keyword.

Lesson: Custom JavaScript Objects.

(Bron: https://www.ciwcertified.com/.)

Vraag 23 van 23

What is the first step in creating a custom object in JavaScript?

A. Defining a constructor.

B. Creating a property.

C. Naming property values.

D. Creating a method.

Antwoordtoets: A

Feedback:

Defining a constructor is the first step in creating an object in JavaScript. The constructor is a special function that enables you to create instances of custom objects. The constructor defines the properties and methods of your object. Specifically, a constructor creates an empty template from which real-time objects, called instances, can be generated. The generic syntax for creating a constructor function is as follows:

```
<script type="text/javascript">
    function NewObject(parameter){ }
    //myObject is now an object of type NewObject!
    var myObject=new NewObject("I am a new object!")
</script>
```

(Bron: https://www.ciwcertified.com/.)