

Ultimate JavaScript Quiz

215 JavaScript Questions

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What is the correct syntax for referring to an external script called "app.js"?

1. `<script href="app.js">`
2. `<script name="app.js">`
3. `<script src="app.js">`
4. `<script file="app.js">`

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Answer: 3. `<script src="app.js">`

Explanation: The correct way to refer to an external JavaScript file is using the `<script>` tag with the `src` attribute.

How do you write a conditional statement for executing some statements only if "i" is equal to 5?

1. `if i = 5`
2. `if i == 5 then`
3. `if (i == 5)`
4. `if i = 5 then`

Answer: 3. `if (i == 5)`

Explanation: In JavaScript, the syntax for an if statement is `if (condition).`

How do you create a function in JavaScript?

1. `function = myFunction()`
2. `function:myFunction()`
3. `function myFunction()`
4. `create myFunction()`

Answer: 3. `function myFunction()`

Explanation: Functions in JavaScript are defined with the function keyword, followed by a name, followed by parentheses ().

What is the output of this code?

```
console.log(typeof null);
```

- A) "null"
- B) "object"
- C) "undefined"
- D) "number"

Answer: B) "object"

Explanation: In JavaScript, null is considered a primitive value, but due to a historical bug, typeof null returns "object". This bug has remained for compatibility reasons.

Which method is used to add an element at the end of an array?

- A) array.push(element)
- B) array.pop(element)
- C) array.unshift(element)
- D) array.shift(element)

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Answer: A) `array.push(element)`

Explanation: `array.push(element)` adds one or more elements to the end of an array and returns the new length of the array.

How can a JavaScript variable be declared conditionally?

- A) `var x if (condition)`
- B) `if (condition) var x`
- C) `var x = (condition) ? value1 : value2`
- D) `condition(var x)`

Answer: C) `var x = (condition) ? value1 : value2`

Explanation: This is a use of the ternary operator, which is a shorthand for the if-else statement. It sets `x` to `value1` if `condition` is true, and `value2` if `condition` is false.

What will this code return?

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

- A) true
- B) false

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- C) TypeError
- D) NaN

Answer: B) false

Explanation: This is due to floating-point precision in JavaScript. The result of $0.1 + 0.2$ is actually slightly more than 0.3, thus not strictly equal (`===`) to 0.3.

What does the `forEach` method do in JavaScript?

- A) It loops through an array and returns a new array.
- B) It executes a function once for each array element.
- C) It checks each element in an array to see if it meets a condition.
- D) It applies a function against an accumulator and each element in the array (from left to right) to reduce it to a single value.

Answer: B) It executes a function once for each array element.

Explanation: `forEach` is an Array method that is used to execute a provided function once for each array element. It doesn't return anything (undefined).

What is the correct syntax for referring to an external script called `app.js`?

- A) `<script href="app.js">`

B) `<script name="app.js">`

C) `<script src="app.js">`

D) `<script file="app.js">`

Answer: C) `<script src="app.js">`

Explanation: The correct way to refer to an external JavaScript file is using the `<script src="filename">` tag.

How do you write a conditional statement for executing some statements only if i is NOT equal to 5?

A) `if (i <> 5)`

B) `if i != 5 then`

C) `if (i != 5)`

D) `if (i !== 5)`

Answer: C) `if (i != 5)`

Explanation: In JavaScript, `!=` is used to check if two values are not equal. `!==` is also correct, but it checks both the value and the type, which isn't specified in the question.

What is the purpose of the `Array.prototype.map()` method in JavaScript?

- A) To iterate over each item in an array and modify the array in place.
- B) To check whether at least one element in the array passes the test implemented by the provided function.
- C) To create a new array with the results of calling a provided function on every element in the calling array.
- D) To execute a reducer function on each element of the array, resulting in a single output value.

Answer: C) To create a new array with the results of calling a provided function on every element in the calling array.

Explanation: `Array.prototype.map()` is used to transform each element in the array using the function provided and returns a new array with the transformed elements.

Which operator is used to assign a value to a variable?

- A) *
- B) -
- C) =
- D) +

Answer: C) =

Explanation: In JavaScript, the = operator is used to assign values to variables.

How do you declare a JavaScript variable?

- A) var name;
- B) v name;
- C) variable name;
- D) new var name;

Answer: A) var name;

Explanation: var is the keyword used to declare a variable in JavaScript.

Which function of an Array object calls a function for each element in the array?

- A) forEach()
- B) every()
- C) forEvery()
- D) each()

Answer: A) forEach()

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Explanation: `forEach()` is a method that executes a provided function once for each array element.

How do you round the number 7.25, to the nearest integer?

- A) `Math.rnd(7.25)`
- B) `Math.round(7.25)`
- C) `round(7.25)`
- D) `Math.floor(7.25)`

Answer: B) `Math.round(7.25)`

Explanation: `Math.round()` is the correct method to round a number to the nearest integer in JavaScript.

How do you find the number with the highest value of x and y?

- A) `Math.ceil(x, y)`
- B) `top(x, y)`
- C) `Math.max(x, y)`
- D) `ceil(x, y)`

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Answer: C) `Math.max(x, y)`

Explanation: `Math.max()` is a function that returns the largest of the zero or more numbers given as input parameters.

What is the correct way to write a JavaScript array?

- A) `var colors = (1:"red", 2:"green", 3:"blue")`
- B) `var colors = 1 = ("red"), 2 = ("green"), 3 = ("blue")`
- C) `var colors = "red", "green", "blue"`
- D) `var colors = ["red", "green", "blue"]`

Answer: D) `var colors = ["red", "green", "blue"]`

Which statement creates a new object in JavaScript?

- A) `var obj = new Object();`
- B) `var obj = new obj();`
- C) `var obj = {};`
- D) Both A and C are correct.

Answer: D) Both A and C are correct.

Explanation: In JavaScript, a new object can be created using either the new Object() syntax or the object literal syntax {}. Both methods are widely used and accepted.

How do you create a function in JavaScript?

- A) function myFunction()
- B) function:myFunction()
- C) function = myFunction()
- D) create myFunction()

Answer: A) function myFunction()

Explanation: Functions in JavaScript are defined with the function keyword, followed by a name, followed by parentheses ().

Which method converts JSON data to a JavaScript object?

- A) JSON.toString()
- B) JSON.toObject()
- C) JSON.parse()
- D) JSON.stringify()

Answer: C) JSON.parse()

Explanation: `JSON.parse()` is used to parse a JSON string and construct the JavaScript value or object described by the string.

What will be the output of the following code?

```
var x = 1;
function changeX() { x = 2; }
changeX();
console.log(x);
```

- A) 1
- B) 2
- C) undefined
- D) Error

Answer: B) 2

Explanation: The function `changeX()` changes the global variable `x` to 2. When `console.log(x)` is called, it prints the updated value, which is 2.

How does a for loop start?

- A) for (i = 0; i <= 5)

- B) for (i <= 5; i++)
- C) for (i = 0; i <= 5; i++)
- D) for (i++)

Answer: C) for (i = 0; i <= 5; i++)

Explanation: The for loop in JavaScript is typically written with three optional expressions: the initialization (i = 0), the condition (i <= 5), and the final expression (i++).

What does the this keyword refer to in a JavaScript method?

- A) The global object
- B) The object that owns the method
- C) The document object
- D) The window object

Answer: B) The object that owns the method

Explanation: In JavaScript, this refers to the object that owns the method, i.e., the object the method is a method of. However, the value of this can change depending on the context in which it's used.

How can you detect the client's browser name in JavaScript?

- A) navigator.appName
- B) browser.name
- C) client.browser
- D) window.browserName

Answer: A) navigator.appName

Explanation: The navigator.appName property returns the name of the browser. However, it's important to note that this property can be unreliable due to browser spoofing.

What will the following code return? Boolean(10 > 9)

- A) true
- B) false
- C) NaN
- D) undefined

Answer: A) true

Explanation: The expression `10 > 9` evaluates to `true`, and `Boolean(true)` is `true`.

Which event occurs when the user clicks on an HTML element?

- A) onchange
- B) onclick
- C) onmouseover
- D) onmouseclick

Answer: B) onclick

Explanation: The onclick event occurs when the user clicks on an element. It's one of the most commonly used events in web pages.

What is the correct syntax for referring to an external script called app.js that will NOT run until after the page has loaded?

- A) `<script href="app.js" async>`
- B) `<script src="app.js" defer>`
- C) `<script src="app.js" async>`
- D) `<script href="app.js" defer>`

Answer: B) `<script src="app.js" defer>`

Explanation: Using the defer attribute in the <script> tag will ensure that the script is executed after the page has finished parsing. Note that src is used to specify the script source, not href.

What does the this keyword refer to in a JavaScript method?

- A) The global object
- B) The object that owns the method
- C) The document object
- D) The window object

Answer: B) The object that owns the method

Explanation: In JavaScript, this refers to the object that owns the method, i.e., the object the method is a method of. However, the value of this can change depending on the context in which it's used.

How can you detect the client's browser name in JavaScript?

- A) navigator.appName
- B) browser.name
- C) client.browser

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D) window.browserName

Answer: A) navigator.appName

Explanation: The navigator.appName property returns the name of the browser. However, it's important to note that this property can be unreliable due to browser spoofing.

What will the following code return? Boolean(10 > 9)

A) true

B) false

C) NaN

D) undefined

Answer: A) true

Explanation: The expression 10 > 9 evaluates to true, and Boolean(true) is true.

Which event occurs when the user clicks on an HTML element?

A) onchange

B) onclick

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- C) onmouseover
- D) onmouseclick

Answer: B) onclick

Explanation: The onclick event occurs when the user clicks on an element. It's one of the most commonly used events in web pages.

What is the correct syntax for referring to an external script called app.js that will NOT run until after the page has loaded?

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- B) `<script src="app.js" defer>`
- C) `<script src="app.js" async>`
- D) `<script href="app.js" defer>`

Answer: B) `<script src="app.js" defer>`

Explanation: Using the defer attribute in the `<script>` tag will ensure that the script is executed after the page has finished parsing. Note that src is used to specify the script source, not href.

What is the purpose of the `Array.prototype.reduce()` method in JavaScript?

- A) To execute a reducer function on each element of the array, resulting in a single output value.
- B) To create a new array with the results of calling a provided function on every element in the calling array.
- C) To iterate over each item in an array and modify the array in place.
- D) To check whether all elements in the array pass the test implemented by the provided function.

Answer: A) To execute a reducer function on each element of the array, resulting in a single output value.

Explanation: `Array.prototype.reduce()` method applies a function against an accumulator and each element in the array (from left to right) to reduce it to a single value.

How do you declare a JavaScript asynchronous function?

- A) `async function myFunc() {}`
- B) `function async myFunc() {}`
- C) `function myFunc() async {}`
- D) `async() function myFunc() {}`

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Answer: A) `async function myFunc() {}`

Explanation: An asynchronous function in JavaScript is declared using the `async` keyword before the function keyword and the function name.

What is a JavaScript Promise?

- A) A function that calls another function after a set period of time.
- B) An object that may produce a single value sometime in the future.
- C) A JSON object returned by a web server.
- D) A data structure that stores pairs of values.

Answer: B) An object that may produce a single value sometime in the future.

Explanation: A JavaScript Promise is an object representing the eventual completion or failure of an asynchronous operation. It allows you to write asynchronous code in a more manageable way.

Which method is used to serialize an object into a JSON string in JavaScript?

- A) `JSON.stringify()`
- B) `JSON.parse()`
- C) `JSON.toObject()`

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D) JSON.toString()

Answer: A) JSON.stringify()

Explanation: JSON.stringify() method converts a JavaScript object or value to a JSON string.

What will the following code output to the console?

```
console.log("5" + 3);
```

```
console.log("5" - 3);
```

A) "53" and 2

B) 8 and 2

C) "53" and "23"

D) 8 and "23"

Answer: A) "53" and 2

Explanation: In JavaScript, the + operator is used for both addition and concatenation. If one of the operands is a string, it concatenates. However, the - operator only performs subtraction, converting strings to numbers if possible.

What is the purpose of the `Array.prototype.reduce()` method in JavaScript?

- A) To execute a reducer function on each element of the array, resulting in a single output value.
- B) To create a new array with the results of calling a provided function on every element in the calling array.
- C) To iterate over each item in an array and modify the array in place.
- D) To check whether all elements in the array pass the test implemented by the provided function.

Answer: A) To execute a reducer function on each element of the array, resulting in a single output value.

Explanation: `Array.prototype.reduce()` method applies a function against an accumulator and each element in the array (from left to right) to reduce it to a single value.

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- A) `async function myFunc() {}`
- B) `function async myFunc() {}`
- C) `function myFunc() async {}`
- D) `async() function myFunc() {}`

Answer: A) `async function myFunc() {}`

Explanation: An asynchronous function in JavaScript is declared using the `async` keyword before the function keyword and the function name.

What is a JavaScript Promise?

- A) A function that calls another function after a set period of time.
- B) An object that may produce a single value sometime in the future.
- C) A JSON object returned by a web server.
- D) A data structure that stores pairs of values.

Answer: B) An object that may produce a single value sometime in the future.

Explanation: A JavaScript Promise is an object representing the eventual completion or failure of an asynchronous operation. It allows you to write asynchronous code in a more manageable way.

Which method is used to serialize an object into a JSON string in JavaScript?

- A) `JSON.stringify()`
- B) `JSON.parse()`
- C) `JSON.toObject()`

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D) JSON.toString()

Answer: A) JSON.stringify()

Explanation: JSON.stringify() method converts a JavaScript object or value to a JSON string.

What will the following code output to the console?

```
console.log("5" + 3);
```

```
console.log("5" - 3);
```

A) "53" and 2

B) 8 and 2

C) "53" and "23"

D) 8 and "23"

Answer: A) "53" and 2

Explanation: In JavaScript, the + operator is used for both addition and concatenation. If one of the operands is a string, it concatenates. However, the - operator only performs subtraction, converting strings to numbers if possible.

What does the splice method do in an array?

- A) It replaces specified elements and/or adds new elements to the array.
- B) It searches the array for specified items and returns their position.
- C) It joins two or more arrays, and returns a new array.
- D) It removes the last element of an array, and returns that element.

Answer: A) It replaces specified elements and/or adds new elements to the array.

Explanation: The splice method changes the contents of an array by removing or replacing existing elements and/or adding new elements in place.

22. Which one of these is a JavaScript package manager?

- A) Node.js
- B) TypeScript
- C) npm
- D) JSON

Answer: C) npm

Explanation: npm (Node Package Manager) is the package manager for JavaScript, allowing users to install and manage library dependencies for their JavaScript applications.

What will the following code return?

```
typeof("x" === "y");
```

- A) "string"
- B) "boolean"
- C) "object"
- D) "undefined"

Answer: B) "boolean"

Explanation: The expression "x" === "y" evaluates to a boolean (either true or false). Therefore, typeof("x" === "y") returns "boolean".

Which HTML attribute is used to define inline JavaScript?

- A) script
- B) js
- C) src
- D) style

Answer: A) script

Explanation: Inline JavaScript code can be written inside HTML pages within a <script> tag.

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What is the output of the following code?

```
let arr = [10, 20, 30, 40];  
for (let i in arr) {  
  console.log(i);  
}
```

- A) 10, 20, 30, 40
- B) 0, 1, 2, 3
- C) undefined
- D) Error

Answer: B) 0, 1, 2, 3

Explanation: The for...in loop in JavaScript iterates over the index or key of an array (or object), not the elements themselves. Therefore, it logs the indices of the array: 0, 1, 2, 3.

Which method is used to remove the last element from an array?

- A) pop()
- B) push()

- C) shift()
- D) unshift()

Answer: A) pop()

Explanation: The pop() method removes the last element from an array and returns that element, altering the length of the array.

How do you declare a constant variable in JavaScript?

- A) let constant = value;
- B) var constant = value;
- C) constant = value;
- D) const constant = value;

Answer: D) const constant = value;

Explanation: In modern JavaScript, a constant variable is declared using the const keyword. It creates a variable whose value cannot be changed.

Which of the following is a correct way to create an object in JavaScript?

- A) var obj = { name: "John", age: 30 };

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B) `var obj = new Object(name: "John", age: 30);`

C) `var obj = Object.create("John", 30);`

D) `var obj = object("John", 30);`

Answer: A) `var obj = { name: "John", age: 30 };`

Explanation: In JavaScript, objects are commonly created using the object literal syntax `{}`, where properties and values are defined within braces.

Which of these is not a valid way to loop over an array in JavaScript?

A) `arr.forEach(function(item) { });`

B) `for (var item of arr) { }`

C) `for (var i in arr) { }`

D) `arr.loop(function(item) { });`

Answer: D) `arr.loop(function(item) { });`

Explanation: JavaScript provides various ways to loop over arrays, such as `forEach`, `for...of`, and `for...in`. However, `arr.loop` is not a standard method for looping.

What will the following code output?

```
console.log(typeof NaN);
```

- A) "number"
- B) "NaN"
- C) "undefined"
- D) "object"

Answer: A) "number"

Explanation: NaN stands for "Not a Number," but paradoxically, in JavaScript, `typeof NaN` is "number".

What does the `&&` operator do?

- A) It returns the first falsy value or the last value if none are found.
- B) It returns the first truthy value or the last value if none are found.
- C) It returns true if both values are true, otherwise false.
- D) It concatenates two strings.

Answer: C) It returns true if both values are true, otherwise false.

Explanation: The `&&` operator is a logical AND operator that returns true if both operands are true, and false otherwise.

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How do you find the length of a string str in JavaScript?

- A) str.length()
- B) str.size()
- C) str.length
- D) length(str)

Answer: C) str.length

Explanation: In JavaScript, the length of a string is found using the .length property, not a method.

What is the correct syntax for creating a new Date object in JavaScript?

- A) var date = Date(2020, 11, 20);
- B) var date = new Date(2020, 11, 20);
- C) var date = createDate(2020, 11, 20);
- D) var date = new DateObject(2020, 11, 20);

Answer: B) var date = new Date(2020, 11, 20);

Explanation: The correct way to create a new Date object in JavaScript is with the new Date() constructor.

What will the following code output to the console?

```
console.log(1 + "2" + "2");
```

- A) "15"
- B) "122"
- C) "5"
- D) "1222"

Answer: B) "122"

Explanation: In JavaScript, the + operator is also used for string concatenation. Since one of the operands is a string, all the numbers are treated as strings, and concatenation is performed.

Which of these keywords is used to define a block of code that will execute if an exception is thrown in a try block?

- A) catch
- B) finally

- C) throw
- D) error

Answer: A) catch

Explanation: The catch block is used to define a block of code that will be executed if an exception is thrown in the associated try block.

What will be the output of the following code snippet?

```
let x = "10";  
let y = 20;  
console.log(x + y);
```

- A) 30
- B) "1020"
- C) "30"
- D) 10

Answer: B) "1020"

Explanation: In JavaScript, when a number is added to a string, the number is converted to a string and then concatenated. Here, x is a string, so y is concatenated to x as a string, resulting in "1020".

Which of the following is true about JavaScript?

- A) JavaScript is a server-side only language.
- B) JavaScript can be executed both on the client side and server side.
- C) JavaScript is used for styling HTML pages.
- D) JavaScript can only be written inside HTML documents.

Answer: B) JavaScript can be executed both on the client side and server side.

Explanation: JavaScript is a versatile language that can be executed on both the client side (in browsers) and the server side (with environments like Node.js).

What is the correct syntax to output something in the console in JavaScript?

- A) `console.output("Hello world");`
- B) `console.log("Hello world");`
- C) `print("Hello world");`
- D) `document.write("Hello world");`

Answer: B) `console.log("Hello world");`

Explanation: `console.log()` is the correct method to output something to the console in JavaScript.

How do you create a function in JavaScript?

- A) function = myFunction()
- B) function:myFunction()
- C) function myFunction()
- D) create myFunction()

Answer: C) function myFunction()

Explanation: In JavaScript, a function is defined with the function keyword, followed by a name and parentheses, e.g., function myFunction().

How do you write a conditional statement in JavaScript?

- A) if x = 5 then
- B) if (x == 5)
- C) if x == 5
- D) if x = 5

Answer: B) if (x == 5)

Explanation: A conditional statement in JavaScript is written with the if keyword, followed by the condition in parentheses, e.g., if (x == 5).

What is the purpose of the `Array.prototype.filter()` method?

- A) It creates a new array with elements that pass a test provided by a function.
- B) It calls a function for each element in the array.
- C) It modifies each element in an array based on a function.
- D) It reduces an array to a single value.

Answer: A) It creates a new array with elements that pass a test provided by a function.

Explanation: `Array.prototype.filter()` creates a new array with all elements that pass the test implemented by the provided function.

How can you add a comment in a JavaScript file?

- A) `<!-- This is a comment -->`
- B) `/* This is a comment */`
- C) `// This is a comment`
- D) Both B and C

Answer: D) Both B and C

Explanation: In JavaScript, both `//` (for single-line comments) and `/* ... */` (for multi-line comments) are used for adding comments.

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How do you declare a JavaScript variable?

- A) var name;
- B) v name;
- C) variable name;
- D) new var name;

Answer: A) var name;

Explanation: Variables in JavaScript are declared using the var, let, or const keyword, followed by the variable name, e.g., var name;.

Which of the following is a way to define an object in JavaScript?

- A) `var car = {"make":"Toyota", "model":"Corolla"};`
- B) `var car = new Object(); car.make = "Toyota"; car.model = "Corolla";`
- C) Both A and B
- D) `var car = (make: "Toyota", model: "Corolla");`

Answer: C) Both A and B

Explanation: In JavaScript, objects can be defined either using object literal notation (as in A) or by first creating an object and then adding properties to it (as in B).

What is the use of parseInt function in JavaScript?

- A) It parses a string and returns a floating point number.
- B) It parses a string and returns an integer.
- C) It converts integers into strings.
- D) It checks if a value is an integer.

Answer: B) It parses a string and returns an integer.

Explanation: The parseInt function parses a string argument and returns an integer of the specified radix (the base in mathematical numeral systems).

1. How do you check if a variable a is an array in JavaScript?

- A) a.isArray()
- B) Array.isArray(a)
- C) typeof a === 'array'
- D) a instanceof Array

Answer: B) Array.isArray(a)

Explanation: `Array.isArray(a)` is the recommended way to check if a variable is an array. It returns true if the variable is an array, otherwise false.

What does the `===` operator represent in JavaScript?

- A) Equality
- B) Assignment
- C) Strict Equality
- D) Inequality

Answer: C) Strict Equality

Explanation: The `===` operator represents strict equality, meaning it checks for equality of both value and type.

Which method is used to decode a URI in JavaScript?

- A) `decodeURI()`
- B) `decodeURIComponent()`
- C) `unescape()`
- D) Both A and B

Answer: D) Both A and B

Explanation: Both `decodeURI()` and `decodeURIComponent()` methods are used to decode a Uniform Resource Identifier (URI) by replacing each escape sequence in the encoded URI with the character that it represents.

What will the following code output?

```
console.log(typeof(undefined));
```

- A) "undefined"
- B) "object"
- C) "null"
- D) "string"

Answer: A) "undefined"

Explanation: The `typeof` operator returns a string indicating the type of the unevaluated operand. For `undefined`, it returns the string "undefined".

Which one is NOT a valid JavaScript data type?

- A) Undefined
- B) Number
- C) Boolean
- D) Float

Answer: D) Float

Explanation: In JavaScript, there is no specific 'Float' data type. Numbers in JavaScript can be integers or floating-point numbers.

How do you write an 'if' statement in JavaScript to check if a variable a is NOT equal to 10?

- A) if !(a == 10)
- B) if (a != 10)
- C) if a <> 10
- D) if (a !== 10)

Answer: B) if (a != 10)

Explanation: if (a != 10) checks if the variable a is not equal to 10. The expression a !== 10 also checks for strict inequality (considering the type).

What does the break statement do in JavaScript?

- A) Breaks out of the current loop.
- B) Terminates a switch statement.
- C) Exits the current function.
- D) Both A and B

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Answer: D) Both A and B

Explanation: The break statement is used to exit from a loop or a switch statement.

Which object in JavaScript is used to work with dates?

- A) Date
- B) DateTime
- C) Time
- D) Calendar

Answer: A) Date

Explanation: The Date object is used in JavaScript to work with dates and times.

What is the output of $0.1 + 0.2 === 0.3$?

- A) true
- B) false
- C) NaN
- D) null

Answer: B) false

Explanation: Due to floating-point precision issues in JavaScript

What will the following code output?

```
console.log(typeof(42));
```

- A) "number"
- B) "integer"
- C) "numeric"
- D) "string"

Answer: A) "number"

Explanation: In JavaScript, the `typeof` operator returns the data type of its operand. Here, `typeof(42)` returns "number" because 42 is a numeric literal.

How can you convert the string '123' to a number in JavaScript?

- A) `Number('123')`
- B) `parseInt('123')`
- C) `parseFloat('123')`
- D) All of the above

Answer: D) All of the above

Explanation: In JavaScript, `Number()`, `parseInt()`, and `parseFloat()` can all be used to convert a string to a number. `Number('123')` and `parseInt('123')` will both return the number 123. `parseFloat('123')` will also return 123 but is typically used for converting to floating-point numbers.

What will be logged to the console when the following code is executed?

```
let x = 5;  
let y = x++;  
console.log(y);
```

- A) 5
- B) 6
- C) undefined
- D) Error

Answer: A) 5

Explanation: The postfix increment operator (`x++`) increments `x`, but returns the value before incrementing. So, `y` is assigned the value 5, and `x` is then incremented to 6.

Which method should be used to compare two dates in JavaScript?

- A) compare()
- B) compareTo()
- C) equals()
- D) getTime()

Answer: D) getTime()

Explanation: To compare two dates in JavaScript, you should convert them to their numeric value (milliseconds since the Unix epoch) using the `getTime()` method. Then you can compare these numeric values.

What is the result of the following expression: `null == undefined`?

- A) true
- B) false
- C) TypeError
- D) NaN

Answer: A) true

Explanation: In JavaScript, null and undefined are loosely equal, so null == undefined evaluates to true.

What is event delegation in JavaScript?

- A) Attaching a single event listener to manage all events
- B) A technique for handling events at a higher level in the DOM than the element on which the event originated
- C) Both A and B
- D) None of the above

Answer: C) Both A and B

Explanation: Event delegation is a technique where you use a single event listener on a parent element to manage all of its child elements' events, particularly useful for handling dynamic elements or to optimize performance.

Which of the following is the correct way to create a new empty array in JavaScript?

- A) `let arr = new Array();`
- B) `let arr = [];`
- C) `let arr = Array();`
- D) All of the above

Answer: D) All of the above

Explanation: In JavaScript, an empty array can be created using any of these methods: `new Array()`, `[]`, or simply calling `Array()`.

How can you stop the execution of a `setInterval` method?

- A) `clearInterval()`
- B) `stopInterval()`
- C) `breakInterval()`
- D) `pauseInterval()`

Answer: A) `clearInterval()`

Explanation: The `clearInterval()` method is used to stop the executions set with the `setInterval()` method.

What is the output of the following code?

```
let x = '5';  
let y = x * 2;  
console.log(y);
```

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- A) 10
- B) "52"
- C) NaN
- D) TypeError

Answer: A) 10

Explanation: In JavaScript, when a string is involved in a mathematical operation (other than addition), it tries to convert the string to a number. Here, '5' is converted to 5, and then multiplied by 2 resulting in 10.

What does the bind() method in JavaScript do?

- A) Connects two strings together
- B) Ensures that a function always executes in the specified context
- C) Binds an event to an element
- D) None of the above

Answer: B) Ensures that a function always executes in the specified context

Explanation: The bind() method in JavaScript creates a new function that, when called, has its this keyword set to the provided value. It's often used for handling this inside callbacks or event handlers.

How do you find the largest number in a list of numbers in JavaScript?

- A) `Math.max(numbers)`
- B) `Math.max.apply(null, numbers)`
- C) `numbers.max()`
- D) `numbers.findMax()`

Answer: B) `Math.max.apply(null, numbers)`

Explanation: `Math.max` can't be directly applied to an array. However, using `apply` with `null` as the first argument allows you to find the largest number in an array.

What does the following code return? `!!(function(){})(())`

- A) `true`
- B) `false`
- C) `undefined`
- D) `TypeError`

Answer: A) `true`

Explanation: `!!` is used to convert the value on the right into a boolean. Since functions are objects and objects are truthy in JavaScript, this expression returns `true`.

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What is the output of the following code?

```
let num = 8;  
let str = "8";  
console.log(num === str);
```

- A) true
- B) false
- C) TypeError
- D) NaN

Answer: B) false

Explanation: The `===` operator checks for both value and type equality. Here, `num` is a number and `str` is a string, so the result is false.

What will the following code print?

```
for (var i = 0; i < 5; i++) {  
  setTimeout(function() { console.log(i); }, i * 1000 );  
}
```

- A) 0, 1, 2, 3, 4
- B) 5, 5, 5, 5, 5
- C) 0, 1, 2, 3

D) 1, 2, 3, 4, 5

Answer: B) 5, 5, 5, 5, 5

Explanation: Due to JavaScript's closure and the fact that var declares a function-scoped variable, each function created in the loop captures the same i variable, which is 5 after the loop ends.

Which method should you use to remove an element from the beginning of an array?

- A) pop()
- B) push()
- C) shift()
- D) unshift()

Answer: C) shift()

Explanation: shift() is the method used to remove the first element from an array and return that removed element. This method changes the length of the array.

What is the output of this code?


```
console.log("1" - - "1");
```

- A) 0
- B) "11"
- C) 2
- D) "2"

Answer: C) 2

Explanation: In JavaScript, the - operator converts strings to numbers if possible and performs subtraction. The double negative (- -) turns the second string into a positive number, resulting in addition.

What is a typical use case for an anonymous function in JavaScript?

- A) Callbacks
- B) Defining classes
- C) Variable assignments
- D) All of the above

Answer: A) Callbacks

Explanation: Anonymous functions are commonly used for callbacks, particularly in asynchronous operations or event handlers.

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What is the result of typeof NaN?

- A) "number"
- B) "NaN"
- C) "undefined"
- D) "object"

Answer: A) "number"

Explanation: In JavaScript, NaN (Not a Number) is considered a numeric value, so typeof NaN returns "number".

How do you clone an object in JavaScript?

- A) let clone = Object.assign({}, obj);
- B) let clone = [...obj];
- C) let clone = clone(obj);
- D) let clone = JSON.parse(JSON.stringify(obj));

Answer: A) let clone = Object.assign({}, obj);

Explanation: Object.assign() is used to clone an object. The first parameter is an empty object {}, and the second parameter is the object to be cloned.

What is event bubbling in JavaScript?

- A) The event is directly handled at the captured phase.
- B) An event propagates from the target element directly to the outermost element.
- C) An event propagates from the outermost element to the target element.
- D) The event does not propagate in any direction.

Answer: B) An event propagates from the target element directly to the outermost element.

Explanation: Event bubbling is a method of event propagation in the HTML DOM where events propagate from the target element up to the outermost parent element. This is the default behavior of events in JavaScript.

Which of the following is a valid type of function in JavaScript?

- A) Anonymous function
- B) Named function
- C) Immediate function
- D) All of the above

Answer: D) All of the above

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Explanation: JavaScript supports various function types, including anonymous functions (functions without a name), named functions (functions with a specific name), and immediately invoked function expressions (IIFE) or immediate functions.

What is the default behavior of the this keyword in a function?

- A) Refers to the global object
- B) Refers to the document object
- C) Refers to the function itself
- D) Refers to the window object

Answer: A) Refers to the global object

Explanation: In JavaScript, when used in a function, this refers to the global object. In a browser, the global object is window, but the global object can be different in other environments like Node.js.

What does the following code return? Boolean(" ")

- A) true
- B) false

C) undefined

D) NaN

Answer: A) true

Explanation: In JavaScript, a non-empty string, including a string with just a space, is considered truthy. Therefore, `Boolean(" ")` returns true.

How do you write a JavaScript array?

A) `var colors = 1 : ("red"), 2 : ("green"), 3 : ("blue");`

B) `var colors = (1:"red", 2:"green", 3:"blue");`

C) `var colors = "red", "green", "blue";`

D) `var colors = ["red", "green", "blue"];`

Answer: D) `var colors = ["red", "green", "blue"];`

Explanation: An array in JavaScript is defined using square brackets `[]` and elements in the array are separated by commas.

What will the following code output?

```
let x = 3;
```

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```
let y = x++;  
console.log(`x:${x}, y:${y}`);
```

- A) x:4, y:3
- B) x:3, y:4
- C) x:4, y:4
- D) x:3, y:3

Answer: A) x:4, y:3

Explanation: The post-increment operator (x++) first returns the value before incrementing. So, y is assigned 3, and then x is incremented to 4.

Which statement is used to test for a specific condition in JavaScript?

- A) select
- B) if
- C) check
- D) for

Answer: B) if

Explanation: The if statement is used to execute a block of code if a specified condition is true.

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Which JavaScript method is used for parsing integer values?

- A) parseInt()
- B) parseValue()
- C) getInteger()
- D) Number.parseInt()

Answer: A) parseInt()

Explanation: parseInt() is a function in JavaScript used to parse a string and return an integer.

What will the following code print?

```
console.log(typeof null);
```

- A) "null"
- B) "undefined"
- C) "object"
- D) "number"

Answer: C) "object"

Explanation: This is a well-known quirk in JavaScript. Although null is not an object, typeof null returns "object".

What is the output of the following code snippet?

```
const fruits = ["apple", "orange", "banana"];
```

```
console.log(fruits[3]);
```

- A) "banana"
- B) undefined
- C) null
- D) Error

Answer: B) undefined

Explanation: JavaScript arrays are zero-indexed, so fruits[3] tries to access the fourth element, which does not exist in the array, resulting in undefined.

How do you create a JavaScript Promise?

- A) new Promise()
- B) Promise.create()
- C) Promise()

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D) new AsyncPromise()

Answer: A) new Promise()

Explanation: A JavaScript Promise is created using the new Promise() constructor, which takes a function (executor) that is called with two arguments (resolve and reject).

Which of these is a correct method to create a new array in JavaScript?

A) var arr = [];

B) var arr = new Array();

C) var arr = Array();

D) All of the above

Answer: D) All of the above

Explanation: Each of these is a valid way to create an array in JavaScript. [] is the array literal syntax, new Array() and Array() are constructors for creating an array.

What is the output of console.log(0.1 + 0.2 == 0.3);?

A) true

B) false

C) undefined

D) NaN

Answer: B) false

Explanation: This is a classic floating point problem in many programming languages. 0.1 and 0.2 do not add up precisely to 0.3 due to the way numbers are encoded in JavaScript.

How do you find the character at a specific index in a string in JavaScript?

A) charAt(index)

B) charCodeAt(index)

C) indexOf(char)

D) characterAt(index)

Answer: A) charAt(index)

Explanation: The charAt() method returns the character at the specified index in a string.

How do you iterate over the properties of an object in JavaScript?

- A) for (let key in object)
- B) object.forEach(key)
- C) while (let key in object)
- D) for (let key of object)

Answer: A) for (let key in object)

Explanation: The for...in loop is used to iterate over all enumerable properties of an object.

What will be the result of console.log(typeof undefined === typeof NULL);?

- A) true
- B) false
- C) TypeError
- D) ReferenceError

Answer: B) false

Explanation: typeof undefined is "undefined", but NULL is not a valid identifier in JavaScript (JavaScript is case-sensitive and null is the valid value). This results in typeof NULL being "undefined" === "object", which is false.

Which method is used to add an item to the beginning of an array?

- A) push()
- B) unshift()
- C) shift()
- D) pop()

Answer: B) unshift()

Explanation: The unshift() method adds one or more elements to the beginning of an array and returns the new length of the array.

What does the map() method do?

- A) It performs a function on each array element and returns a new array.
- B) It checks each element for a condition and returns the first that matches.
- C) It combines the elements of an array and returns a single value.
- D) It filters an array based on a test function and returns a new array.

Answer: A) It performs a function on each array element and returns a new array.

Explanation: The `map()` method creates a new array populated with the results of calling a provided function on every element in the calling array.

What will `console.log('B' + 'a' + + 'a' + 'a');` output?

- A) "BaNaN"
- B) "Baaa"
- C) "BaNaN"
- D) `SyntaxError`

Answer: C) "BaNaN"

Explanation: This code is a tricky use of unary plus (+). The second 'a' is attempted to be converted to a number, which results in NaN. The rest of the string concatenation results in "BaNaN".

What is the use of the `bind()` method in JavaScript?

- A) To bind a function to an object.
- B) To permanently link a method to an object.
- C) To copy a method from one object to another.
- D) To delay the execution of a function.

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Answer: A) To bind a function to an object.

Explanation: The bind() method creates a new function, when invoked, has its this keyword set to the provided value, and its arguments are any passed after the first argument.

What is event bubbling in JavaScript?

- A) A process where an event triggers the event handlers on its parent elements.
- B) A process where an event triggers the event handlers on its child elements.
- C) A process where an event stops after triggering its own handler.
- D) A process where an event triggers all handlers in random order.

Answer: A) A process where an event triggers the event handlers on its parent elements.

Explanation: Event bubbling is a mechanism in JavaScript where an event on a child element propagates upwards, triggering handlers on its parent elements up to the root.

What will be the output of the following code?

```
console.log(2 + '2');
```

- A) 4

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- B) "22"
- C) "4"
- D) SyntaxError

Answer: B) "22"

Explanation: JavaScript performs automatic type coercion. In this case, the number 2 is coerced into a string, and then concatenated with the string '2', resulting in the string "22".

Which of the following is NOT a valid way to declare a JavaScript variable?

- A) var name;
- B) let name;
- C) const name;
- D) dim name;

Answer: D) dim name;

Explanation: var, let, and const are the valid ways to declare variables in JavaScript. dim is not a JavaScript keyword for declaring variables.

Which method would you use to remove an item from the end of an array and return that item?

- A) pop()
- B) push()
- C) shift()
- D) unshift()

Answer: A) pop()

Explanation: The pop() method removes the last element from an array and returns that element. This method changes the length of the array.

How do you find the number with the highest value in a list of numbers?

- A) Math.max(numbers)
- B) Math.max.apply(null, numbers)
- C) numbers.max()
- D) Math.highest(numbers)

Answer: B) Math.max.apply(null, numbers)

Explanation: `Math.max.apply(null, numbers)` allows you to find the highest number in an array of numbers. The `apply()` method is used because `Math.max` doesn't directly accept an array as an argument.

What is the purpose of `Array.prototype.forEach()` method in JavaScript?

- A) It modifies each item of the array based on a provided function.
- B) It creates a new array with the results of calling a function for every array element.
- C) It executes a provided function once for each array element.
- D) It reduces the array to a single value by executing a reducer function on each element.

Answer: C) It executes a provided function once for each array element.

Explanation: `forEach()` method executes a provided function once for each element in an array in ascending order. It doesn't return anything.

What will be the output of the following code?

```
console.log(typeof undefined);
```

- A) "null"
- B) "undefined"

- C) "object"
- D) "boolean"

Answer: B) "undefined"

Explanation: The typeof operator returns a string indicating the type of the unevaluated operand. Here, typeof undefined will return "undefined".

How do you create a JavaScript Promise object?

- A) let promise = new Promise();
- B) let promise = Promise();
- C) let promise = Promise.create();
- D) let promise = new createPromise();

Answer: A) let promise = new Promise();

Explanation: A Promise in JavaScript is created using the new Promise() constructor, which takes a function (known as the executor function) as its argument.

Which one of these is used to check whether a property exists in an object?

- A) in
- B) exists
- C) hasOwnProperty()
- D) Both A and C

Answer: D) Both A and C

Explanation: The in operator checks if a property exists in an object or its prototype chain, whereas hasOwnProperty() method checks if a property exists directly on the object.

What will this code output?

```
let a = [1, 2, 3];  
let b = [1, 2, 3];  
console.log(a == b);
```

- A) true
- B) false
- C) TypeError
- D) ReferenceError

Answer: B) false

Explanation: In JavaScript, arrays are reference types. Even if two arrays have identical elements, they are not the same when compared as they refer to different memory locations.

Which method is used to sort the elements of an array in place and return the sorted array?

- A) order()
- B) sort()
- C) arrange()
- D) sequence()

Answer: B) sort()

Explanation: The sort() method sorts the elements of an array in place and returns the sorted array. The default sort order is according to string Unicode code points.

How do you declare a JavaScript function?

- A) function myFunc()
- B) var myFunc = function()
- C) let myFunc = () => {}
- D) All of the above

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Answer: D) All of the above

Explanation: In JavaScript, functions can be declared in various ways, including as a function declaration (`function myFunc()`), a function expression (`var myFunc = function()`), or using arrow function syntax (`let myFunc = () => {}`).

What will the following code output?

```
console.log(typeof NaN);
```

- A) "NaN"
- B) "number"
- C) "undefined"
- D) "object"

Answer: B) "number"

Explanation: Although NaN stands for "Not a Number," in JavaScript, it is considered a numeric value, and therefore `typeof NaN` returns "number".

Which method would you use to convert a JSON string into a JavaScript object?

- A) `JSON.parse()`

- B) `JSON.stringify()`
- C) `JSON.toObject()`
- D) `JSON.toJavaScript()`

Answer: A) `JSON.parse()`

Explanation: `JSON.parse()` is used to parse a JSON string and construct a JavaScript value or object described by the string.

How do you create a new object in JavaScript?

- A) `var obj = {};`
- B) `var obj = new Object();`
- C) `var obj = Object.create(null);`
- D) All of the above

Answer: D) All of the above

Explanation: A new object in JavaScript can be created using object literal syntax (`{}`), the `new Object()` constructor, or the `Object.create()` method.

What is event delegation in JavaScript?

- A) A process of handling events at a lower level before they bubble up

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- B) Assigning a single event listener to manage all events of a particular type
- C) Handling an event at the target element level
- D) A way to prevent events from bubbling up or capturing down

Answer: B) Assigning a single event listener to manage all events of a particular type

Explanation: Event delegation is a technique of delegating event handling to a parent element rather than individual child elements. It takes advantage of the event bubbling phase.

Which of these is a JavaScript data type?

- A) number
- B) object
- C) boolean
- D) All of the above

Answer: D) All of the above

Explanation: JavaScript has multiple data types, including number, object, and boolean.

What will this code output?

```
var x = 1;
function foo() {
  var x = 2;
  console.log(x);
}
foo();
console.log(x);
```

- A) 1, 2
- B) 2, 1
- C) 2, 2
- D) 1, 1

Answer: B) 2, 1

Explanation: The function foo has its own local scope and logs 2. The global variable x remains 1 and is logged outside the function.

How can you check if an object is an array in JavaScript?

- A) `typeof obj === 'array'`
- B) `obj instanceof Array`
- C) `Array.isArray(obj)`
- D) Both B and C

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Answer: D) Both B and C

Explanation: To check if an object is an array, you can use `obj instanceof Array` or `Array.isArray(obj)`. Both are correct, although `Array.isArray()` is generally preferred for its clarity and reliability.

What is the purpose of the `reduce()` method in an array?

- A) To execute a provided function once for each array element, returning a single output value.
- B) To filter out elements in an array that do not pass a test in the provided function.
- C) To create a new array with each element being the result of the provided function.
- D) To iterate over each element of the array, executing a provided function without returning a value.

Answer: A) To execute a provided function once for each array element, returning a single output value.

Explanation: `reduce()` method applies a function against an accumulator and each element in the array (from left to right) to reduce it to a single value.

What is the correct syntax for adding comments in JavaScript?

- A) `<!-- This is a comment -->`
- B) `/* This is a comment */`
- C) `// This is a comment`
- D) Both B and C

Answer: D) Both B and C

Explanation: In JavaScript, `//` is used for single-line comments, and `/* ... */` is used for multi-line comments. The `<!-- ... -->` syntax is for HTML comments.

Basic Syntax and Variables:

What is the correct syntax for referring to an external script called "xxx.js"?

- A) `<script href="xxx.js">`
- B) `<script name="xxx.js">`
- C) `<script src="xxx.js">`
- D) `<script file="xxx.js">`

Answer: C

Explanation: In HTML, JavaScript code is inserted between <script> tags and the 'src' attribute is used to include an external script file.

How do you create a variable with the numeric value 5?

A) `var num = 5;`

B) `num = 5;`

C) `var 5 = num;`

D) `num5 = var;`

Answer: A

Explanation: The correct way to declare a variable in JavaScript is using the `var`, `let`, or `const` keyword, followed by the variable name and its value.

Data Types and Structures:

Which of the following is a correct way to create an array in JavaScript?

A) `var colors = (1:"red", 2:"green", 3:"blue");`

B) `var colors = ["red", "green", "blue"];`

C) `var colors = 1 = ("red"), 2 = ("green"), 3 = ("blue");`

D) `var colors = "red", "green", "blue";`

Answer: B

Explanation: Arrays in JavaScript are created using square brackets, with elements separated by commas.

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Functions and Scope:

What keyword is used to define a function in JavaScript?

- A) func
- B) function
- C) def
- D) Func

Answer: B

Explanation: The function keyword is used to define a function in JavaScript.

Control Structures:

How do you write an IF statement in JavaScript?

- A) if (i == 5)
- B) if i = 5
- C) if i == 5 then
- D) if i = 5 then

Answer: A

Explanation: In JavaScript, the syntax for an if statement is if (condition).

DOM Manipulation:

How do you find the element with the id "demo" in a web page?

- A) `document.getElementById("demo");`
- B) `document.getElementById("demo");`
- C) `document.getElementsById("demo");`
- D) `document.querySelector("#demo");`

Answer: B

Explanation: `document.getElementById("id")` is the correct method to find an element by its ID.

Events:

How do you add an event handler in JavaScript?

- A) `element.event = myFunction();`
- B) `element.onEvent = myFunction();`
- C) `element.addEventListener('event', myFunction);`
- D) `element.attachEvent('onEvent', myFunction);`

Answer: C

Explanation: The `addEventListener` method is used to set up a function to be called whenever the specified event is delivered to the target.

Object-Oriented Programming:

How do you create an object in JavaScript?

- A) `var obj = new Object();`
- B) `var obj = {};`
- C) Both A and B
- D) None of the above

Answer: C

Explanation: Both `new Object()` and `{}` are valid ways to create an object in JavaScript.

Asynchronous Programming:

What does the `async` keyword do?

- A) Immediately invokes a function
- B) Makes a function return a promise
- C) Ensures a function runs synchronously
- D) Pauses the execution of a function

Answer: B

Explanation: The `async` keyword is used before a function to make it return a promise.

Error Handling:

Which statement is used to handle errors in JavaScript?

- A) `handle(error)`

- B) error()
- C) try...catch
- D) if...else

Answer: C

Explanation: The try...catch statement is used to catch errors in a block of code.

ES6 Features:

What is the purpose of template literals in JavaScript?

- A) To connect strings and variables
- B) To perform complex mathematical operations
- C) To define multi-line strings
- D) Both A and C

Answer: D

Explanation: Template literals allow for multi-line strings and can embed expressions, making string concatenation more intuitive.

Which loop structure is not available in JavaScript?

- A) for
- B) while
- C) do-while
- D) repeat-until

Answer: D

Explanation: JavaScript supports for, while, and do-while loops, but there is no repeat-until loop structure.

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Which of the following values is considered falsy in JavaScript?

- A) "0"
- B) []
- C) null
- D) {}

Answer: C

Explanation: In JavaScript, falsy values include 0, "" (empty string), null, undefined, NaN, and false. Arrays [] and objects {} are considered truthy.

Arrow Functions:

What is a key feature of arrow functions in JavaScript?

- A) They do not have their own this context
- B) They return the value automatically without return keyword if they contain a single expression
- C) They can be used as constructors
- D) Both A and B

Answer: D

Explanation: Arrow functions don't have their own this context and automatically return the value of a single expression without needing the return keyword.

What type of scope does JavaScript use?

- A) Lexical scope
- B) Dynamic scope
- C) Global scope
- D) Local scope

Answer: A

Explanation: JavaScript uses lexical scoping, where the scope of a variable is defined by its location within the source code.

What will be the output of `console.log("5" + 3);` in JavaScript?

- A) "53"
- B) 8
- C) TypeError
- D) undefined

Answer: A

Explanation: In JavaScript, when you use the `+` operator with a string and a number, the number is converted to a string and concatenated.

Which statement is true about hoisting in JavaScript?

- A) Only variable declarations are hoisted to the top, not the initializations
- B) Both variable declarations and initializations are hoisted

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- C) Functions are not hoisted
- D) Hoisting applies to variables declared with let and const

Answer: A

Explanation: In JavaScript, variable declarations are hoisted to the top of their scope, but their initializations are not. Function declarations are also hoisted, but not the function expressions or arrow functions.

What is the initial state of a JavaScript Promise?

- A) Resolved
- B) Rejected
- C) Pending
- D) None of the above

Answer: C

Explanation: The initial state of a Promise is pending. It may then be fulfilled (resolved) or failed (rejected).

What is the purpose of "use strict" in JavaScript?

- A) Enables stricter parsing and error handling in your code
- B) Prevents the use of global variables
- C) Allows the use of advanced features like Promises and Generators
- D) Automatically optimizes the performance of the script

Answer: A

Explanation: "use strict" enforces stricter parsing and error handling in JavaScript, helping to avoid common coding mistakes and unsafe actions.

Event Bubbling and Capturing:

What does event bubbling mean in the context of JavaScript events?

- A) The event is first captured by the deepest element and then propagated to outer elements
- B) The event is directly handled by the element that caused it
- C) The event is first captured by the outermost element and then propagated to the inner elements
- D) The event starts from the parent element and then goes to the child elements

Answer: A

Explanation: Event bubbling in JavaScript means that an event starts at the most specific element (the deepest one), and then flows upward in the DOM tree, triggering handlers as it goes.

What character is used to define a template string in JavaScript?

- A) Double quotes "
- B) Single quotes '
- C) Backticks ``

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D) Forward slashes /

Answer: C

Explanation: Template strings in JavaScript are enclosed by backticks ```. They can contain placeholders which are indicated by `${expression}` syntax.

How can you access the property name of an object person?

A) person[name]

B) person.name

C) person->name

D) Both A and B

Answer: D

Explanation: In JavaScript, object properties can be accessed either using dot notation (e.g., `person.name`) or bracket notation (e.g., `person["name"]`).

What does Promise.all do?

A) Resolves all promises passed to it as soon as the first one resolves

B) Resolves all promises passed to it as soon as the first one rejects

C) Resolves after all promises passed to it resolve, or rejects as soon as one of them rejects

D) Resolves after all promises passed to it reject

Answer: C

Explanation: Promise.all waits for all promises to resolve or for any to reject. If all resolve, it resolves with an array of the results. If any reject, it rejects with the reason of the first promise that rejected.

Which keyword is used to define a class in JavaScript?

- A) class
- B) object
- C) prototype
- D) constructor

Answer: A

Explanation: The class keyword is used to define a class in JavaScript.

What is a closure in JavaScript?

- A) A function and its lexical environment
- B) An error-handling mechanism
- C) The process of combining multiple functions into one
- D) A type of loop

Answer: A

Explanation: A closure is a combination of a function and its lexical environment, allowing it to access variables from an outer function after it has executed.

What does JSON stand for?

- A) JavaScript Object Notation
- B) Java Standard Output Network
- C) JavaScript Oriented Notation
- D) Just a Simple Object Notation

Answer: A

Explanation: JSON stands for JavaScript Object Notation. It's a lightweight format for storing and transporting data.

What is the difference between let and const in JavaScript?

- A) let is for immutable variables, while const is for mutable variables
- B) let allows reassignment, while const does not
- C) let is block-scoped, while const is function-scoped
- D) No difference, they are interchangeable

Answer: B

Explanation: let allows you to declare variables that can be re-assigned, whereas const is used for declaring variables that cannot be reassigned. Both are block-scoped.

What does destructuring mean in JavaScript?

- A) Breaking the script into smaller parts for better performance

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- B) An error that occurs when a script is not properly compiled
- C) The process of assigning the properties of an object or array to variables using a syntax that looks similar to array or object literals
- D) Removing an element from an array or object

Answer: C

Explanation: Destructuring in JavaScript is a syntax for extracting multiple properties from an array or object and assigning them to variables.

What does the map method do in JavaScript?

- A) It changes the original array by applying a function to each element
- B) It creates a new array with the results of calling a provided function on every element in the calling array
- C) It concatenates all elements of an array into a string
- D) It searches an array for an element value and returns its position

Answer: B

Explanation: map creates a new array with the results of calling a function for every array element. It does not modify the original array.

What will be the output of the following code?

```
console.log(x);
```

```
var x = 5;
```

- A) undefined
- B) 5

C) ReferenceError: x is not defined

D) null

Answer: A

Explanation: Due to variable hoisting in JavaScript, x is declared before it is used, but its initialization is not hoisted. Therefore, the value of x is undefined when console.log is called.

What are default parameters in JavaScript functions?

A) Parameters that are automatically passed if no arguments are provided

B) The first parameters in a function declaration

C) Parameters that are optional and can be omitted when calling the function

D) Predefined values assigned to function parameters

Answer: D

Explanation: Default parameters allow named parameters to be initialized with default values if no value or undefined is passed.

What is the purpose of the JavaScript event loop?

A) To add new events to the JavaScript engine

B) To handle asynchronous operations and manage the execution order

C) To loop through array elements

D) To create new threads for parallel execution

Answer: B

Explanation: The JavaScript event loop is a mechanism that handles asynchronous callbacks. It's responsible for executing the code, collecting and processing events, and executing queued sub-tasks.

What is a prototype in JavaScript?

- A) A preliminary version of a software application
- B) The parent object from which other objects inherit properties
- C) A special constructor function
- D) The initial model on which all JavaScript objects are based

Answer: B

Explanation: In JavaScript, every object has a property called prototype from which it inherits methods and properties.

What does the this keyword refer to in a JavaScript function?

- A) The function itself
- B) The HTML element that received the event
- C) The object that the function is a method of
- D) The global object

Answer: C

Explanation: The value of this within a function depends on the context in which the function is called, but generally, it refers to the object that the function is a method of.

What is a higher-order function in JavaScript?

- A) A function that operates on other functions, either by taking them as arguments or by returning them
- B) A function that is executed at a higher priority level
- C) A function that returns higher values than other functions
- D) A function that can only be executed after the page has loaded

Answer: A

Explanation: Higher-order functions are functions that take other functions as arguments or return them as results.

What is the purpose of async/await in JavaScript?

- A) To pause the execution of a function until a promise resolves
- B) To execute a function asynchronously
- C) To immediately execute asynchronous code
- D) To create a new thread like in multi-threading programming

Answer: A

Explanation: The async/await syntax is used to write asynchronous code that behaves synchronously. async makes a function return a Promise, while await makes a function wait for a Promise.

In JavaScript, what are modules?

- A) Pre-written code libraries used for common tasks
- B) A feature that allows splitting JavaScript programs into separate files
- C) Functions that can be used to calculate mathematical operations

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D) Built-in methods for manipulating strings and arrays

Answer: B

Explanation: JavaScript modules are a way to split a program into separate files, allowing for better maintainability and reusability of code.

What do spread (...) operators do in JavaScript?

A) Concatenate arrays or objects

B) Spread the elements of an iterable (like an array) into individual elements

C) Increase the values of numeric elements in an array

D) Split a string into an array of characters

Answer: B

Explanation: The spread operator allows an iterable such as an array to be expanded in places where zero or more arguments (for function calls) or elements (for array literals) are expected.

What is garbage collection in JavaScript?

A) A process of removing old, unused code from a JavaScript program

B) A method to manage memory and clean up unreferenced objects

C) Deleting all variables set to null

D) A manual process of deallocating memory

Answer: B

Explanation: Garbage collection in JavaScript is the process of automatically finding memory that is no longer in use and reclaiming it, ensuring efficient memory management.

What does the `Document.querySelector()` method do in the DOM API?

- A) Adds a new query to the document
- B) Returns the first element within the document that matches the specified group of selectors
- C) Queries the server for updated content
- D) Modifies the CSS of elements in the document

Answer: B

Explanation: `Document.querySelector()` returns the first Element within the document that matches the specified selector or group of selectors. If no matches are found, null is returned.

Which of the following is an instance of an Error object in JavaScript?

- A) `SyntaxError`
- B) `TypeError`
- C) `ReferenceError`
- D) All of the above

Answer: D

Explanation: JavaScript has several built-in error constructors, such as `SyntaxError`, `TypeError`, and `ReferenceError`, all of which create error object instances.

Which method is used to store data in the local storage in a web browser?

- A) localStorage.store()
- B) localStorage.save()
- C) localStorage.setItem()
- D) localStorage.put()

Answer: C

Explanation: The localStorage.setItem() method is used to store data in the browser's local storage, allowing data to be stored across browser sessions.

Which feature is unique to template literals in JavaScript?

- A) Ability to use single or double quotes for strings
- B) Ability to span multiple lines without using special characters
- C) Automatic conversion of all strings to uppercase
- D) Restriction on the use of embedded expressions

Answer: B

Explanation: Template literals allow strings to span multiple lines without the need for newline characters, and they can also contain placeholders for embedding expressions.

What is the main role of a JavaScript engine in a web browser?

- A) To render HTML and CSS
- B) To enable multimedia content

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- C) To parse and execute JavaScript code
- D) To manage browser storage systems

Answer: C

Explanation: The JavaScript engine in a web browser is responsible for parsing and executing JavaScript code, which enables dynamic content and interactive features on web pages.

What is CORS in the context of web development?

- A) A protocol for transferring data over different domains
- B) A policy that allows or restricts resources to be requested from another domain
- C) A method for encrypting data sent over the internet
- D) A JavaScript framework for building user interfaces

Answer: B

Explanation: CORS (Cross-Origin Resource Sharing) is a policy used in web browsers that controls whether resources like fonts, JavaScript, etc., can be requested from another domain outside the domain from which the first resource was served.

What are WebSockets primarily used for in JavaScript?

- A) Storing data on the client-side
- B) Enabling real-time, bi-directional communication between client and server
- C) Displaying 3D graphics in the browser
- D) Parsing and rendering HTML documents

Answer: B

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Explanation: WebSockets provide a way to establish a persistent, real-time, bi-directional communication channel between a client and a server, enabling real-time data transfer.

What is the main purpose of service workers in web applications?

- A) To enable multi-threading in JavaScript
- B) To act as a proxy server between web applications, the browser, and the network
- C) To enhance the graphical capabilities of a web page
- D) To increase the computational power of JavaScript

Answer: B

Explanation: Service workers act as a proxy server between web applications, the browser, and the network. They are primarily used for caching assets and enabling functionality like push notifications and background sync.

What is Cross-Site Scripting (XSS)?

- A) A method for optimizing JavaScript code
- B) A security vulnerability that allows attackers to inject malicious scripts into webpages viewed by other users
- C) A technique for sharing scripts across multiple websites
- D) A JavaScript framework for building secure web applications

Answer: B

Explanation: Cross-Site Scripting (XSS) is a security vulnerability that allows attackers to inject malicious scripts into webpages, which can then be executed in the context of other users' browsers.

What is the purpose of the console.log function in JavaScript?

- A) To display messages in the web browser's console for debugging purposes
- B) To log user interactions with the web page
- C) To record errors and exceptions in the server logs
- D) To enhance the performance of JavaScript code

Answer: A

Explanation: The console.log function is used to output messages to the web browser's console, primarily for debugging purposes.

Which object is used for making HTTP requests in JavaScript?

- A) HTTPClient
- B) XMLHttpRequest
- C) WebClient
- D) FetchAPI

Answer: B, D

Explanation: Both XMLHttpRequest and the newer FetchAPI are used for making HTTP requests in JavaScript. FetchAPI provides a more modern and powerful approach.

What is the purpose of the Intl object in JavaScript?

- A) To provide language sensitive string comparison, number formatting, and date and time formatting
- B) To handle international domain names and URLs
- C) To automatically translate web pages into different languages
- D) To format JavaScript code according to international coding standards

Answer: A

Explanation: The Intl object is a namespace for the JavaScript Internationalization API, which provides language-sensitive string comparison, number formatting, and date and time formatting.

How do you select all paragraph elements in a document using JavaScript?

- A) `document.getElement('p')`
- B) `document.querySelectorAll('p')`
- C) `document.getElementsByClassName('paragraph')`
- D) `document.getElementsByTagName('p')`

Answer: B

Explanation: `document.querySelectorAll('p')` selects all elements that match the specified CSS selector, in this case, all `<p>` elements.

Which statement about JavaScript's `setTimeout()` function is true?

- A) It pauses the execution of the entire JavaScript engine for a specified time.

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- B) It executes a function after waiting a specified number of milliseconds.
- C) It is used to set the time for a JavaScript date object.
- D) It calls a function continuously at specified time intervals.

Answer: B

Explanation: `setTimeout()` is used to execute a function once after a specified duration in milliseconds.

Which event fires whenever a form field loses focus?

- A) `onchange`
- B) `onfocus`
- C) `onblur`
- D) `onmouseleave`

Answer: C

Explanation: The `onblur` event is fired when an element loses focus.

What does the finally block do in a try...catch statement?

- A) It is executed after the try and catch blocks, but before any following statements.
- B) It runs only if the try block executes without any errors.
- C) It contains conditions that must be true for the try block to execute.
- D) It will execute only if an error is caught in the catch block.

Answer: A

Explanation: The finally block executes after the try and catch blocks, regardless of whether an error occurred or not.

Which data type does JavaScript use for storing decimal values?

- A) float
- B) decimal
- C) number
- D) double

Answer: C

Explanation: JavaScript uses the number data type for all numbers, including integers and decimals.

What is an IIFE (Immediately Invoked Function Expression) in JavaScript?

- A) A function that runs as soon as it is defined.
- B) A function that is executed at the end of the script.
- C) A named function that is executed immediately after its creation.
- D) A function that is automatically called when an error occurs.

Answer: A

Explanation: An IIFE is a JavaScript function that runs as soon as it is defined. It is typically used to avoid polluting the global scope.

What is the purpose of regular expressions in JavaScript?

- A) To perform complex mathematical calculations
- B) To manipulate and animate HTML elements
- C) To search, edit, or manipulate strings

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D) To encode and decode JSON data

Answer: C

Explanation: Regular expressions are used in JavaScript for searching, editing, and manipulating text strings.

What is the scope of a variable declared with var inside a function in JavaScript?

A) Global scope

B) Block scope

C) Function scope

D) Local scope

Answer: C

Explanation: Variables declared with var inside a function are limited to function scope.

What is the Singleton pattern in JavaScript?

A) A pattern that ensures a class has only one instance and provides a global point of access to it.

B) A pattern where a function can generate instances of objects.

C) A pattern used for creating complex objects step by step.

D) A pattern that separates the construction of a complex object from its representation.

Answer: A

Explanation: The Singleton pattern restricts a class to a single instance and provides a global point of access to that instance.

What feature of HTML5 is used to draw graphics on a web page via JavaScript?

- A) <svg>
- B) <canvas>
- C) <graphics>
- D) <art>

Answer: B

Explanation: The HTML5 <canvas> element is used to draw graphics on a web page using JavaScript.

What is an API in the context of JavaScript web development?

- A) A set of classes for object-oriented programming
- B) A server-side framework for creating web applications
- C) An interface for letting your application communicate with other applications or services
- D) A tool for automating the build process of JavaScript projects

Answer: C

Explanation: In web development, an API (Application Programming Interface) is an interface that allows your application to interact with external services or systems, facilitating data exchange and integration.

What does the window object represent in a browser-based JavaScript environment?

- A) The JavaScript runtime environment
- B) The background processes of a web page
- C) The browser tab or window displaying the current web page
- D) The server hosting the web page

Answer: C

Explanation: The window object represents the browser window or tab in which the script is running, and it is the topmost object in the browser's document object model (DOM).

Which method should you use to combine two arrays in JavaScript?

- A) append()
- B) concat()
- C) join()
- D) merge()

Answer: B

Explanation: The concat() method is used to merge two or more arrays, returning a new array without modifying the original arrays.

What is the purpose of the document.createElement() method in JavaScript?

- A) To delete an existing HTML element
- B) To update the content of an HTML element
- C) To create a new HTML element
- D) To find an existing HTML element

Answer: C

Explanation: The document.createElement() method creates a new HTML element of the specified type.

What is the use of the === operator in JavaScript?

- A) It assigns a value to a variable.
- B) It compares two values for equality, without type conversion.
- C) It concatenates two strings.
- D) It increments a value.

Answer: B

Explanation: The === operator, also known as the strict equality operator, compares two values for equality, ensuring that both the value and the type are the same.

What is a callback function in JavaScript?

- A) A function that is called at the start of another function
- B) A function passed into another function as an argument, which is then invoked inside the outer function to complete some kind of routine or action

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- C) A function that counts the number of times a function is called
- D) A function that is automatically called whenever an error occurs

Answer: B

Explanation: In JavaScript, a callback function is a function passed into another function as an argument, which is then executed at a specified point within the outer function.

How do you check if an object is an array in JavaScript?

- A) `typeof object === 'array'`
- B) `object instanceof Array`
- C) `Array.isArray(object)`
- D) `object.getType() === 'array'`

Answer: C

Explanation: `Array.isArray(object)` is the preferred method to check if an object is an array, as it returns true if the object is an array, and false otherwise.

Which JavaScript method is used to write HTML output directly to a web page?

- A) `document.write()`
- B) `console.log()`
- C) `window.print()`
- D) `response.send()`

Answer: A

Explanation: `document.write()` is used to write directly to the HTML document. However, it is generally not recommended for use in production code due to its invasive nature.

What is the main benefit of using Web Workers in JavaScript?

- A) They enable multi-threading like capabilities by running scripts in background threads
- B) They improve the security of web applications
- C) They are used for automating repetitive tasks in the browser
- D) They help in storing large amounts of data locally

Answer: A

Explanation: Web Workers allow you to run JavaScript in background threads, enabling parallel processing and improving the performance of web applications that perform heavy calculations.

How can you dynamically change the style of an HTML element using JavaScript?

- A) `document.getStyle().change()`
- B) `element.style.property = 'value'`
- C) `element.changeStyle('property', 'value')`
- D) `style.setAttribute('property', 'value')`

Answer: B

Explanation: In JavaScript, you can dynamically change the style of an HTML element using `element.style.property = 'value'`, where `property` is the CSS property you want to change and `value` is the new style value.

How do you prevent a form from submitting using JavaScript?

- A) `event.preventDefault()`
- B) `form.stop()`
- C) `submit.disable()`
- D) `form.cancel()`

Answer: A

Explanation: In an event handler, you can call `event.preventDefault()` to prevent the default action of the event, such as submitting a form.

What is jQuery primarily used for?

- A) Managing databases
- B) Simplifying HTML document traversal, manipulation, and event handling
- C) Compiling JavaScript to bytecode
- D) High-performance server-side applications

Answer: B

Explanation: jQuery is a fast, small, and feature-rich JavaScript library designed to simplify the client-side scripting of HTML, including DOM manipulation and event handling.

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How do you parse a JSON string in JavaScript?

- A) `JSON.parse(jsonString)`
- B) `JSON.stringify(jsonString)`
- C) `JSON.decode(jsonString)`
- D) `JSON.toObject(jsonString)`

Answer: A

Explanation: `JSON.parse(jsonString)` is used to convert a JSON string into a JavaScript object.

Why is it recommended to avoid using global variables in JavaScript?

- A) They can only store string values
- B) They are slower to access than local variables
- C) They can lead to code conflicts in larger applications
- D) They are automatically deleted after script execution

Answer: C

Explanation: Global variables can lead to conflicts, especially in larger applications, as different scripts might overwrite each other's variables.

What does the navigator object in JavaScript represent?

- A) The active network connection
- B) The browser's history

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- C) The operating system
- D) The user's browser and its capabilities

Answer: D

Explanation: The navigator object contains information about the user's browser, such as the name, version, and platform.

Which JavaScript framework is primarily used for building user interfaces?

- A) Node.js
- B) Express.js
- C) React
- D) MongoDB

Answer: C

Explanation: React is a JavaScript library for building user interfaces, particularly known for its efficient rendering and declarative style.

How do you remove an event listener from an element in JavaScript?

- A) `element.removeEventListener(eventName, handlerFunction)`
- B) `element.detachEvent(eventName, handlerFunction)`
- C) `element.deleteEvent(eventName, handlerFunction)`
- D) `element.off(eventName, handlerFunction)`

Answer: A

Explanation: `element.removeEventListener(eventName, handlerFunction)` is used to remove an event listener that was added with `addEventListener`.

What method of the window object is used to display an alert box in JavaScript?

- A) `window.display()`
- B) `window.message()`
- C) `window.alert()`
- D) `window.popup()`

Answer: C

Explanation: `window.alert()` is used to display an alert dialog with a specified message and an OK button.

What is a RangeError in JavaScript?

- A) An error that occurs when a number is outside the bounds of its range
- B) An error that occurs when trying to improperly access an array element
- C) An error that occurs when a variable or parameter is not a valid type
- D) An error that occurs when a function takes too long to execute

Answer: A

Explanation: A `RangeError` is thrown in JavaScript when a numeric variable or parameter is outside of its valid range.

What is the difference between getElementById and getElementsByClassName methods in JavaScript?

- A) getElementById returns a single element, while getElementsByClassName returns a collection of elements
- B) getElementById can select multiple elements, while getElementsByClassName can only select one
- C) getElementById is faster and more efficient than getElementsByClassName
- D) getElementById applies to HTML elements only, while getElementsByClassName applies to both HTML and XML elements

Answer: A

Explanation: getElementById retrieves a single element with the specified ID, while getElementsByClassName returns a live HTMLCollection of all elements with the specified class name.