Javascript Assignment

**1. What is JavaScript?**

JavaScript is a versatile, high-level programming language primarily used to create interactive effects within web browsers. It is an essential part of web technologies alongside HTML and CSS, enabling dynamic content updates, form validations, animations, and handling multimedia.

**2. What is the use of isNaN function?**

The isNaN (is Not-a-Number) function checks whether a value is NaN (Not-a-Number). It returns true if the value is NaN, otherwise, it returns false. For example:

javascript

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isNaN('hello'); // true

isNaN(123); // false

**3. What is negative Infinity?**

Negative Infinity is a special numeric value in JavaScript that represents a value less than any other number. It is the result of dividing a negative number by zero or an arithmetic operation that results in an infinitely small value. For example:

javascript

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console.log(-Infinity < 0); // true

**4. Which company developed JavaScript?**

JavaScript was developed by Netscape Communications Corporation, specifically by Brendan Eich, in 1995.

**5. What are undeclared and undefined variables?**

* **Undeclared Variables:** Variables that have not been declared using var, let, or const before being used. Accessing such variables will result in a ReferenceError.
* **Undefined Variables:** Variables that have been declared but not yet assigned a value. They hold the value undefined.

**6. Write the code for adding new elements dynamically:**

Here is an example of adding a new <div> element to the DOM:

javascript

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let newDiv = document.createElement('div');

newDiv.innerHTML = 'Hello, World!';

document.body.appendChild(newDiv);

**7. What is the difference between ViewState and SessionState?**

* **ViewState:** Maintains the state of a web page between postbacks. It is specific to a single page and is stored in a hidden field on the page.
* **SessionState:** Maintains the state of a user session across multiple web pages. It is stored on the server and can be accessed across different pages in a web application.

**8. What is the === operator?**

The === operator is a strict equality operator that checks for both value and type equality. For example:

javascript

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console.log(1 === 1); // true

console.log(1 === '1'); // false

**9. How can the style/class of an element be changed?**

You can change the style of an element using the style property and the class using the className or classList properties. For example:

javascript

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let element = document.getElementById('myElement');

element.style.color = 'red'; // Change style

element.className = 'newClass'; // Change class

element.classList.add('anotherClass'); // Add a class

**10. How to read and write a file using JavaScript?**

In a browser environment, you cannot directly read/write files due to security restrictions. However, using the File API and FileReader/FileWriter, you can handle file operations with user input:

javascript

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// Reading a file

let input = document.createElement('input');

input.type = 'file';

input.onchange = function(event) {

let file = event.target.files[0];

let reader = new FileReader();

reader.onload = function(e) {

console.log(e.target.result); // File content

};

reader.readAsText(file);

};

document.body.appendChild(input);

For server-side JavaScript (Node.js), you can use the fs module:

javascript

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const fs = require('fs');

// Reading a file

fs.readFile('example.txt', 'utf8', (err, data) => {

if (err) throw err;

console.log(data);

});

// Writing to a file

fs.writeFile('example.txt', 'Hello, World!', (err) => {

if (err) throw err;

console.log('File written successfully.');

});

**11. What are all the looping structures in JavaScript?**

JavaScript supports several looping structures:

* for loop
* while loop
* do...while loop
* for...in loop (for iterating over object properties)
* for...of loop (for iterating over iterable objects like arrays)

**12. How can you convert the string of any base to an integer in JavaScript?**

You can use the parseInt function, which takes two arguments: the string and the base (radix):

javascript

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let num = parseInt('1010', 2); // Converts binary '1010' to integer 10

**13. What is the function of the delete operator?**

The delete operator is used to remove a property from an object:

javascript

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let obj = { name: 'Alice', age: 25 };

delete obj.age;

console.log(obj); // { name: 'Alice' }

**14. What are all the types of Pop up boxes available in JavaScript?**

JavaScript provides three types of popup boxes:

* alert: Displays a message and an OK button.
* confirm: Displays a message with OK and Cancel buttons.
* prompt: Displays a message, an input field, and OK/Cancel buttons.

**15. What is the use of void (0)?**

The void (0) expression evaluates to undefined and is often used in HTML to prevent the browser from following a link or to avoid any side effects:

html

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<a href="javascript:void(0);">Click me</a>

**16. How can a page be forced to load another page in JavaScript?**

You can use the window.location property to redirect to another page:

javascript

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window.location.href = 'http://www.example.com';

**17. What are the disadvantages of using innerHTML in JavaScript?**

Using innerHTML can have several disadvantages:

* **Security Risks:** It can introduce cross-site scripting (XSS) vulnerabilities if not handled properly.
* **Performance:** Replacing large amounts of HTML can be less efficient.
* **State Loss:** Replacing HTML can remove event listeners and other associated states.

**18. Create password field with show/hide functionalities:**

Here's an example of a password field with show/hide functionality:

html

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<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Password Show/Hide</title>

<script>

function togglePassword() {

let passwordField = document.getElementById('password');

let toggleButton = document.getElementById('togglePassword');

if (passwordField.type === 'password') {

passwordField.type = 'text';

toggleButton.innerHTML = 'Hide';

} else {

passwordField.type = 'password';

toggleButton.innerHTML = 'Show';

}

}

</script>

</head>

<body>

<form>

<label for="password">Password:</label>

<input type="password" id="password" name="password">

<button type="button" id="togglePassword" onclick="togglePassword()">Show</button>

</form>

</body>

</html>

This code creates a password input field with a button that toggles the visibility of the password.