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M1 Research Paper 2 - Quiz

Below is a scored review of your assessment. All questions are shown.

□ Correct Answer □ Partially Correct □ Incorrect Answer

1 Can the await keyword be used outside the scope of async functions?

Your Answer	No, it will result in a syntax error.
Correct Answer	No, it will result in a syntax error.

Justification

The await keyword can only be used inside the scope of async functions. Using it outside an async function will result in a syntax error.

2 Which data structure is often associated with the call stack?

Your Answer	Stack
Correct Answer	Stack

Justification

The call stack in JavaScript is commonly associated with the stack data structure. When a function is called, it gets added to the call stack, and when a function finishes executing, it is removed from the stack.

3 Which method is used to handle the rejection of a Promise?

Your Answer	reject()
Correct Answer	reject()

Justification

The reject() method is used to handle the rejection of a Promise. It is executed when the operation fails or encounters an error.

4 Where can await expressions be used?

Your Answer	Only in async functions.
Correct Answer	Only in async functions.

Justification

Await expressions can only be used inside async functions.

5 What is the purpose of the catch() function in Promises?

Your Answer	It executes the next line of code after a rejected request
Correct Answer	It executes the next line of code after a rejected request

Justification

The catch() function in Promises is used to handle rejected requests. It expects a function as an argument to be executed when the Promise is rejected.

6 What happens to the callbacks added with then() in Promises?

Your Answer	They are executed after the current event loop is concluded
Correct Answer	They are executed after the current event loop is concluded

Justification

The callbacks added with then() in Promises will not be executed immediately. They are deferred until the current run of the JavaScript event loop is concluded, ensuring the asynchronous process is completed.

7 What is a Promise in JavaScript?

Your Answer	An entity representing the completion of an asynchronous process
Correct Answer	An entity representing the completion of an asynchronous process

Justification

A Promise in JavaScript is an entity that represents the successful or unsuccessful completion of an asynchronous process. It allows programmers to handle asynchronous code and avoid common pitfalls of event-driven programming.

8 What is the advantage of using try and catch blocks in async functions?

Your Answer They catch and handle errors that occur during asynchronous operations.

Correct Answer They catch and handle errors that occur during asynchronous operations.

Justification

The advantage of using try and catch blocks in async functions is that they catch and handle errors that occur during asynchronous operations, ensuring that the execution of the script continues without stopping.

9 What happens if a Promise is rejected in an async function without using try/catch?

Your Answer	The execution continues normally.
Correct Answer	The program crashes with an error.

Justification

If a Promise is rejected in an async function without using try/catch, the program crashes with an error.

10 Which sorting algorithm is known for its worst-case time complexity of O(n log(n))?

Your Answer	Merge Sort
Correct Answer	Merge Sort

Justification

Merge Sort has a worst-case time complexity of O(n log(n)), making it more efficient than algorithms with a time complexity of O(n^2). It divides the array into halves and merges them in a sorted manner.

11 What is the purpose of the resolve parameter in a Promise?

Your Answer	It executes when the Promise is resolved
Correct Answer	It executes when the Promise is resolved

Justification

The resolve parameter in a Promise is a function that is executed when the asynchronous process is successfully dealt with and the Promise is resolved.

12 What does the then() function return?

Your Answer	A new Promise object
Correct Answer	A new Promise object

Justification

The then() function returns a new Promise object, allowing for chaining multiple asynchronous operations together. It provides a way to continue the Promise chain and handle the results or errors of the previous operation.

13 What is the main drawback of the single-threaded nature of JavaScript?

Your Answer	Difficulty in handling multiple user interactions
Correct Answer	Difficulty in handling multiple user interactions

Justification

JavaScript being single-threaded means that only one line of code can be executed at a time. This makes it challenging to handle multiple user interactions simultaneously and can lead to delays or unresponsive behavior in the application.

14 Which sorting algorithm has a worst-case space complexity of O(log(n))?

Your Answer	Quick Sort
Correct Answer	Merge Sort

Justification

Merge Sort has a worst-case space complexity of O(log(n)). It requires additional space to perform the sorting operation due to the division of the array into halves and merging them.

15 What is the purpose of the call stack in JavaScript?

Your Answer	To keep track of multiple function calls
Correct Answer	To keep track of multiple function calls

Justification

The call stack in JavaScript is used by the interpreter to keep track of its place in the script when multiple functions are called. It helps in knowing the current position in the code and tracks the functions called from the running function.

16 Which of the following is a correct syntax for an async function declaration?

Your Answer	function async myFunction() {}
Correct Answer	async function myFunction {}

Justification

The correct syntax for an async function declaration is "async function myFunction {}".

17 What happens when the call stack exceeds the allocated space?

Your Answer	Stack overflow error occurs
Correct Answer	Stack overflow error occurs

Justification

When the call stack takes up more space than the allocated space, a stack overflow error occurs. This happens when there are too many functions waiting to be executed in the stack.

18 Which feature of modern JavaScript helps in handling asynchronous operations?

Your Answer	Promises
Correct Answer	Promises

Justification

Promises are a feature introduced in modern JavaScript (ES6 onwards) to handle asynchronous operations more effectively. Promises provide a cleaner and more concise way to handle callbacks and asynchronous code.

19 What problem can arise from using excessive callbacks?

Your Answer	Increased complexity of code
Correct Answer	Increased complexity of code

Justification

Excessive use of callbacks can increase the complexity of code. It adds nesting levels to functions, making the code harder to read and maintain. As the nesting increases, the time needed to code also increases.

20 How is error handling done in Promises?

Your Answer	Using the catch() function
Correct Answer	Using the catch() function

Justification

Error handling in Promises is done using the catch() function. It allows you to specify a function to be executed when the Promise is rejected, handling any errors that may occur.

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I'm done.

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