

#### M1 Research Paper 2 - Quiz

Correct Answer	Partially Correct	Incorrect Answer

What happens when the call stack is empty?

Your Answer The memory allocated to the call stack is freed

Correct Answer The program terminates

### Justification

When the call stack is empty, it means that all functions have finished executing, and there are no more pending function calls. At this point, the program terminates, and control is returned to the operating system or the environment in which the program is running.

#### What is a callback function in JavaScript?

Your Answer A function passed as an argument to another function and

executed later

**Correct Answer** A function passed as an argument to another function and

executed later

#### Justification

A callback function in JavaScript is a function that is passed as an argument to another function. It is invoked within the outer function to complete a routine or operation. Callbacks are commonly used for asynchronous programming and event handling.

Which statement best describes the purpose of the try/catch block in async functions?

**Your Answer** Handling errors that occur during asynchronous operations.

**Correct Answer** Handling errors that occur during asynchronous operations.

### Justification

The try/catch block in async functions helps with handling errors that occur during asynchronous operations.

What is the purpose of the call stack in relation to the execution of functions?

Your Answer It keeps track of the currently executing function

Correct Answer It keeps track of the currently executing function

### Justification

The call stack in JavaScript keeps track of the currently executing function. It allows the interpreter to know the position in the code and the functions called from the current function.

Which function in JavaScript halts the execution of subsequent code until it is completed?

Your Answer alert()

Correct Answer alert()

### Justification

The alert() function in JavaScript halts the execution of subsequent code until the user closes the alert dialog. It acts as a blocking operation, preventing the execution of code until the alert is dismissed.

When were Promises introduced in JavaScript?

Your Answer ES6

Correct Answer ES6

# Justification

Promises were introduced in JavaScript in ES6 or ECMAScript 6, also known as Modern JavaScript.

How are callbacks handled with Promises?

Your Answer Callbacks are attached to the returned Promise object

Correct Answer Callbacks are attached to the returned Promise object

### Justification

With Promises, callbacks are attached to the returned Promise object using the then() method. This allows for more organized and readable code compared to traditional callback functions.

What does the await keyword do?

**Your Answer** It halts the execution of code until a Promise is resolved or

rejected.

Correct Answer It halts the execution of code until a Promise is resolved or

rejected.

### Justification

The await keyword halts the execution of code until a Promise is resolved or rejected.

How are multiple callbacks added to a Promise using then()?

Your Answer By calling then() multiple times with different callbacks

**Correct Answer** By calling then() multiple times with different callbacks

# Justification

Multiple callbacks can be added to a Promise by calling the then() method multiple times. Each callback will be invoked one after another in the order they are added.

Which sorting algorithm has the worst-case time complexity of  $O(n^2)$ ?

Your Answer Bubble Sort

Correct Answer Bubble Sort

### Justification

Bubble Sort has a worst-case time complexity of O(n^2), where n represents the number of items in the list. It compares adjacent elements and swaps them if they are in the wrong order.

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