SYNCHRONOUS VS ASYNCHRONOUS

PROGRAMMING IN JAVASCRIPT

What is Synchronous in JavaScript?

JavaScript is a synchronous single-threaded language.

Synchronous means the execution of the code happens sequentially means only one statement can be executed at a time. Each statement executes after the execution of the previous statement.

In synchronous programming, the next statements get blocked due to the previous statement, which causes a delay in the user interface, this phenomenon is known as Blocking.

```js
// script.js
1  console.log('First');
2  console.log('Second');
3  console.log('Third');
4
5  // Output
6  First
7  Second
8  Third
```

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What is Aynchronous in JavaScript?

Asynchronous means the execution of the code happens in parallel means more than one statement can be executed at a time, which means the current statement gets executed in the background and the next statement gets executed immediately.

As we can see in the output of the above code example, the Third gets printed before the Second, because of the asynchronous execution of the code. Here setTimeout() function waits for 2 seconds, and in the meantime, the next statement gets executed without waiting for the previous one to complete the execution.

setTimeout() is an asynchronous method.

```js
JS script.js > ...
1   console.log('First');
2   // Set timeout for 2 seconds
3   setTimeout(() => console.log('Second'), 2000);
4   console.log('Third');
5
6   //Output
7   First
8   Third
9   Second
```

JS

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What is the Difference Between Synchronous vs Asynchronous JavaScript?

Synchronous JavaScript	Asynchronous JavaScript
Execution happens in sequence.	Execution happens in parallel.
Only one statement gets executed at a time.	More than one statement can be executed at a time.
Each operation waits for the previous operation to complete its execution.	The next operation can be executed while the previous operation gets executed in the background.

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