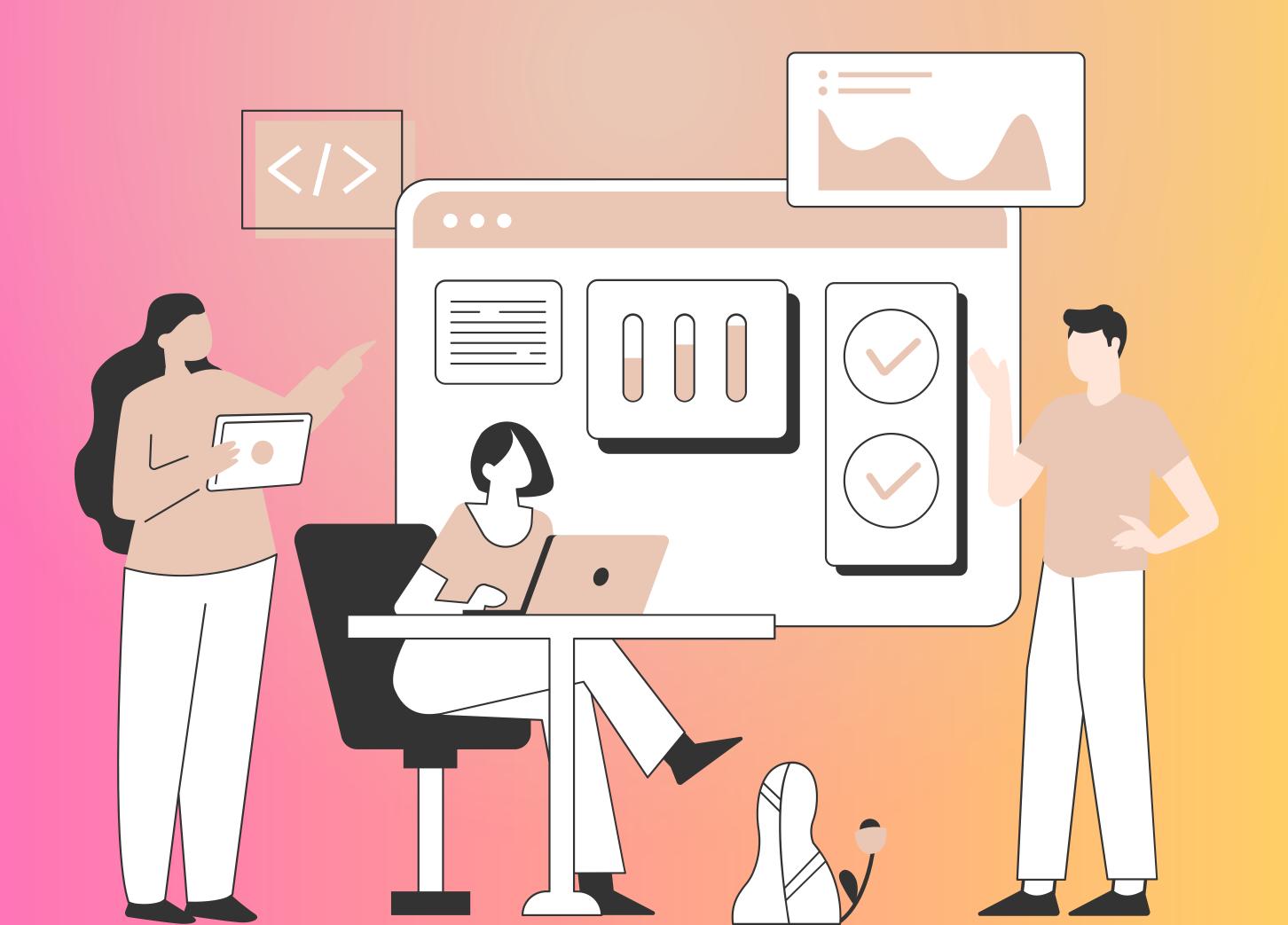


# JavaScript Interview Preparation in 10 Days



## WHAT IS ASYNCHRONOUS PROGRAMMING IN JAVASCRIPT?

Asynchronous programming allows tasks to run in the background while other tasks continue to run, without blocking the main thread.

```
console.log("Start");
setTimeout(() => {
  console.log("This runs after 2 seconds");
}, 2000);
console.log("End");
```



### WHATARE CALLBACKS IN JAVASCRIPT?

A callback is a function passed into another function as an argument and executed after the completion of that function

```
function fetchData(callback) {
  setTimeout(() => {
    callback("Data fetched");
  }, 1000);
}

fetchData((message) => {
  console.log(message); // "Data fetched"
});
```



### WHATARE PROMISES IN JAVASCRIPT?

A Promise is an object representing the eventual completion or failure of an asynchronous operation

```
000
          JS index.js
let promise = new Promise((resolve, reject) => {
  setTimeout(() => {
     resolve("Promise resolved");
  }, 1000);
promise.then((message) => {
   console.log(message); // "Promise resolved"
});
```



#### WHAT DOES THE THEN() METHOD DO?

The then() method is used to specify what to do when a Promise is resolved

```
000
          us index.js
let promise = new Promise((resolve, reject) => {
  setTimeout(() => {
    resolve("Data loaded");
  }, 1000);
promise.then((data) => {
  console.log(data); // "Data loaded"
});
```



### WHAT DOES THE CATCH() METHOD DO?

The catch() method is used to specify what to do when a Promise is rejected

```
000
        Js index.js
 let promise = new Promise((resolve, reject) => {
   setTimeout(() => {
     reject("Error occurred");
   }, 1000);
 });
 promise
   .then((data) => {
     console.log(data);
   })
   .catch((error) => {
     console.log(error); // "Error occurred"
  });
```



#### WHATISASYNC/AWAITIN JAVASCRIPT?

async/await is syntactic sugar for working with Promises, making asynchronous code look and behave more like synchronous code

```
async function fetchData() {
  let promise = new Promise((resolve) => {
    setTimeout(() => resolve("Data fetched"), 1000);
  });

  let result = await promise;
  console.log(result); // "Data fetched"
}

fetchData();
```



#### HOW DO YOU HANDLE ERRORS IN ASYNC/AWAIT?

Errors in async/await can be handled using try/catch blocks

```
000
          Js index.js
async function fetchData() {
  try {
     let promise = new Promise((resolve, reject) =>
       {
       setTimeout(() => reject("Error occurred")
                  ,1000);
     });
     let result = await promise;
     console.log(result);
   } catch (error) {
     console.log(error); // "Error occurred"
fetchData();
```



### WHAT IS THE EVENT LOOP IN JAVASCRIPT?

The Event Loop is a mechanism that handles the execution of multiple chunks of code, enabling non-blocking asynchronous operations

```
console.log("Start");

setTimeout(() => {
   console.log("This runs last");
   }, 0);

console.log("End");
  // Output: "Start", "End", "This runs last"
```



#### WHAT IS THE FETCH API?

The fetch API provides a way to make network requests and handle responses in a more modern and flexible way compared to XMLHttpRequest

```
fetch("https://api.example.com/data")
   .then((response) => response.json())
   .then((data) => console.log(data))
   .catch((error) => console.error("Error:", error));
```



#### HOW DO YOU USE PROMISE.ALL IN JAVASCRIPT?

Promise.all takes an array of Promises and returns a single Promise that resolves when all of the input Promises have resolved

```
let promise1 = Promise.resolve(3);
let promise2 = 42;
let promise3 = new Promise((resolve) => {
    setTimeout(resolve, 100, "foo");
});

Promise.all([promise1, promise2, promise3])
    .then((values) => {
    console.log(values); // [3, 42, "foo"]
});
```







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