

Callbacks

Intro to what callbacks are and how to use them

Contents

What is a callback?

When do you need to use one?

Conventions

Examples

What is a callback?

```
let data = [1, 2, 3];

function executeLater() {
  console.log("I'm a callback function");
}

setTimeout(executeLater, 1000);

data.forEach(function (entry) {
  console.log(entry);
});

// 1
// 2
// 3
// I'm a callback function
```

Start executing code



functions and code declaration

```
function executeLater() {
  console.log("I'm a callback function");
}
```

schedule asynchronous code and pass a
callback function

```
setTimeout(executeLater, 1000);
```

Continue executing code

setTimeout function finishes executing after some time

```
setTimeout(callbackFunction, time) {
  callbackFunction();
}
```

When do you need to use callbacks?

When do you need to use callbacks?

Anytime you need to perform an in a non-blocking way.

- Asynchronous operations
- Communicating with a server
- Perform long and complex operations
- Provide a callback function that should be called when a DOM event is triggered (`addEventListener("click", callback)`)

Conventions

Error first callbacks

One of the main patterns you will see when working with callback functions is the Error First Callback Function pattern which was popularised by the Node.js framework and is now used in many libraries.

```
fs.readFile("/foo.txt", function (err, data) {  
  // If an error occurred, handle it  
  if (err) {  
    console.log("Something went wrong");  
    return;  
  }  
  // Otherwise, log the file contents  
  console.log(data);  
});
```


Examples

Examples

Most of the functions you have used so far use callbacks to perform an operation and then execute the function you provide as a callback.

```
function executeLater() {  
    console.log("I'm a callback function");  
}  
  
setTimeout(executeLater, 2000);  
  
/* ANONYMOUS CALLBACK FUNCTION */  
document.addEventListener("click", function (event) {  
    console.log(event);  
});  
  
/* DECLARED CALLBACK FUNCTION */  
document.addEventListener("click", myFunction);  
  
function myFunction(event) {  
    console.log(event);  
}  
  
[1, 2, 3, 4].forEach(function (number) {  
    console.log(number * 2);  
});
```

Questions?