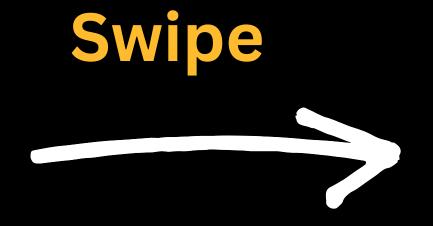
Call(), Apply() & Bind() in JavaScript



1. Call()

The call() method binds the 'this' value to the function and executes the function. It takes the 'this' value and a list of arguments as parameters. It returns the value returned by the function, which is called using the call method.

```
1
    function greetings() {
      console.log(`Hello, ${this.name}! How are you doing today?`);
 2
 3
 4
 5
    const person1 = { name: 'John Smith' };
 6
    const person2 = { name: 'Mark Rober' };
    greetings.call(person1);
 8
 9
    // Output: Hello, John Smith! How are you doing today?
10
    greetings.call(person2);
11
    // Output: Hello, Mark Rober! How are you doing today?
12
```

2. Apply()

The apply() method binds the 'this' value to the function and executes the function. It takes the 'this' value and a single array-like object as its second argument, and it returns the value returned by the function, which is called using the apply method.

```
function greetings(...greetMessage) {
 1
 2
      console.log(`${greetMessage[0]}, ${this.name}! ${greetMessage[1]}
 3
      ${greetMessage[2]} ${greetMessage[3]} ${greetMessage[4]}?`);
 4
 5
 6
    const person1 = { name: 'John Smith' };
 7
    const person2 = { name: 'Mark Rober' };
 8
 9
    greetings.apply(person1,['Hello','How','are','you','doing']);
    // Output: Hello, John Smith! How are you doing today?
10
11
12
    greetings.apply(person2,['Hello','How','are','you','doing']);
    // Output: Hello, Mark Rober! How are you doing today?
13
```

3. Bind()

The bind() method is used to create a new function with a specified 'this' value, without invoking the original function immediately. This is useful for creating functions with a fixed 'this' value. However, we still need to separately invoke the returned function.

```
function greetings() {
 1
 2
      console.log(`Hello, ${this.name}! How are you doing today?`);
 3
 4
 5
    const person1 = { name: 'John Smith' };
 6
    const person2 = { name: 'Mark Rober' };
 7
    const introducePerson1= greetings.bind(person1);
 8
 9
    introducePerson1() // Output: Hello, John Smith! How are you doing today?
10
    const introducePerson2= greetings.bind(person2);
11
    introducePerson2() // Output: Hello, Mark Rober! How are you doing today?
12
```

Advantages

Call() and Apply() are useful when you want to call a function with a specific `this` context for a single invocation. Bind() is more commonly used when you need to create a new function with a fixed `this` context, which can be called multiple times.

These methods are powerful tools for managing the 'this' context and passing arguments when working with JavaScript functions and are commonly used in scenarios like event handling, function composition, and object-oriented programming.

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