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Course: Javascript

Abstract VS Interface

In JavaScript, there is no native support for abstract classes or interfaces as you might find in some other programming languages like Java or C#. However, you can achieve similar concepts using various patterns and language features.

Interface in JavaScript:

An interface in JavaScript is a set of method signatures that an object must adhere to. While JavaScript doesn't have native support for interfaces, you can define an object literal with method placeholders to emulate this concept.

```
2  const MyInterface = {
3      method1: function () {
4          throw new Error('Method not implemented');
5      },
6      method2: function () {
7          throw new Error('Method not implemented');
8      }
9  };
10
11  // Implementing the interface
12  const MyImplementation = Object.create(MyInterface);
13  MyImplementation.method1 = function () {
14      console.log('Method 1 implemented');
15  };
16
17  MyImplementation.method2 = function () {
18      console.log('Method 2 implemented');
19  };
20
21  MyImplementation.method1(); // Output: Method 1 implemented
22  MyImplementation.method2(); // Output: Method 2 implemented
```

Abstract Class in JavaScript:

JavaScript lacks built-in abstract classes, but you can mimic them using constructor functions or classes. Abstract classes often contain abstract methods that must be implemented by subclasses.

```
25 function AbstractClass() {
26     if (this.constructor === AbstractClass) {
27         throw new Error('Cannot instantiate abstract class');
28     }
29 }
30
31 AbstractClass.prototype.abstractMethod = function () {
32     throw new Error('Abstract method must be implemented');
33 };
34
35 // Subclass
36 function ConcreteClass() {
37     AbstractClass.call(this);
38 }
39
40 ConcreteClass.prototype = Object.create(AbstractClass.prototype);
41 ConcreteClass.prototype.constructor = ConcreteClass;
42
43 ConcreteClass.prototype.abstractMethod = function () {
44     console.log('Concrete method implemented');
45 };
46
47 const instance = new ConcreteClass();
48 instance.abstractMethod(); // Output: Concrete method implemented
49
```