objects and its internal representation in JavaScript

Unveiling JavaScript Objects: A Brief Dive into Internal Representation JavaScript, the backbone of web development, thrives on its versatile use of objects. Objects, pivotal in creating organized structures, hold the key to managing data and behaviour effectively. In this brief exploration, we unravel the internal representation of objects in JavaScript, shedding light on the core concepts that make them indispensable in modern web programming.

The Essence of JavaScript Objects in JavaScript encapsulate both data and behaviour, functioning as dynamic entities with properties and methods. Their flexibility makes them fundamental to the language, enabling developers to build scalable and modular code.

JavaScript

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 Example of a simple object

 let person =

 {name: 'John', age: 25, greet: function () {

console.log (`Hello, ${this.name}! `);

}

 };

person. Greet(); // Output: Hello, John! Internal

Structure: Properties and Prototypes

1. **Properties:** JavaScript objects house properties, which can be of various types, including primitives, objects, and functions. Properties are accessed and modified using dot notation or square brackets.

JavaScript
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console.log(person.name); // Output: John

console.log(person['age']); // Output: 25

2 Prototypes: Objects in JavaScript form a prototype chain, allowing them to inherit properties and methods from other objects. This mechanism promotes code reuse and establishes a hierarchical structure.

JavaScript

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```
et student = {
grade: 'A'
 };
Object.setPrototypeOf(person, student);
console.log (person. Grade); // Output: A
```

Object Creation: Constructors and Classes

1. Constructors:

Constructors, functions invoked with the new keyword, facilitate object creation. They initialize properties and behaviours.

JavaScript

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```
function Car (brand, model)
 { this.brand = brand;
this.model = model;
}
let myCar = new Car('Toyota', 'Camry');
```

2**. Classes:** ES6 introduced class syntax, offering a more structured way to create objects.

javascript

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```
class Animal {
```

```
constructor(name) {
 this.name = name; }
sound()
{ console.log('Some sound');
 }
}
let cat = new Animal('Whiskers');
```

The this Keyword and Execution Context

Understanding the this keyword is paramount. It refers to the current execution context and plays a crucial role in methods, ensuring proper access to object properties.

```
javascript
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et employee = {
 name: 'Alice', i
ntroduce: function()
{ console.log(`Hello, I'm ${this.name}`);
}
 }; employee.introduce(); // Output: Hello, I'm Alice
```

JavaScript Object Notation (JSON) facilitates the interchange of data. Objects can be converted to JSON and vice versa for seamless communication between clients and servers.